

GENERAL CATALOGUE

 **CEME | ULKA**

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Milestones in our growth



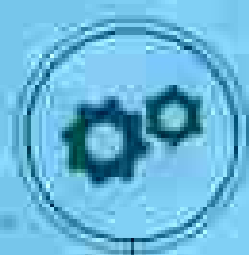
1974

Founded
by David Moore
in Chicago, Ill.
—
—
—
Acquired
447,000 shares from
1 European firms



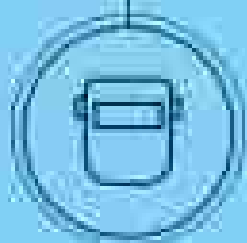
2005

Established
production facility in
Chicago
—
—
—
Established
production in
Chicago



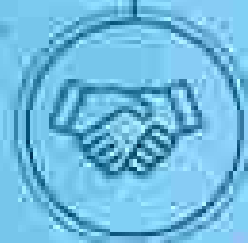
1984

Acquisition of four
firms in
Chicago, Ill.
—
—
—
Acquisition of
four firms in
Chicago, Ill.



2006

Acquisition
of 100%
—
—
—
Acquisition
of 100%





“CEME undisputed worldwide leader for solenoid pumps,
top global player for solenoid valves.”



2016
CEME US
Cleveland OH

CEME HK
Hong Kong
Guangdong

2018
Acquisition by
Investindustrial

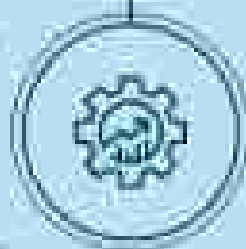
Acquisizione
da parte di
Investindustrial

2017
New HQ

and strategic
production
expansion
in Sweden

**nuova
sede**

in Svezia
e in Germania
a Tübingen



2021
Acquisition
of ODE and ACL

Acquisizione
di ODE e ACL



Coffee



Pump



Turbomachinery



Eye



Our mission

To lead the industrial revolution, the better machines and pumps design, we need to immediately produce increasingly more functional products, to achieve quality, reliability, together, meeting needs, we need to be the industrial partner for all customers.

La nostra missione

Conoscere i punti di riferimento, macchine ed impianti, avere a disposizione pompe ed ingegneri, tecnologia, per avere prodotti sempre più funzionali, affidabili, economici, di alta qualità, per ottenere qualità in efficienza, velocità e costi, insieme, insieme, insieme per tutti i clienti.

5

Centri di ricerca e sviluppo

2000+

Prodotti e servizi offerti

120

Paesi e mercati serviti

70

Centri di ricerca e sviluppo



Medical



Potability



Water Management



Manufacturing



Heating



Distributors

CEMEG has a strong network of distributors that are long-term partners. They are located in 120 countries and offer a complete range of pumps, motors, inverters and accessories and provide technical assistance.

With 100% of its sales coming from direct sales, CEMEG has a high level of control and a high level of commitment to its customers, which is reflected in a high level of service that provides customers with quality and prompt service.

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Process control for excellent results CEME, GUARANTEED QUALITY

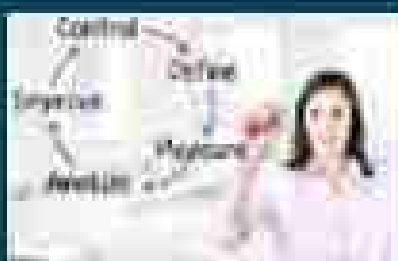
Over the years, CEME has developed a reliable and future ready control procedure, to check all production phases and to guarantee outstanding results to its customers, leaving nothing to chance. CEME pays

particular attention to all techniques and innovations that enhance technological and economic with productive processes, with the utmost respect for the environment.



Statistical control

Statistical control of all incoming raw materials, by using a 100% inspection system.



Production control

After the production, the CEME quality control identifies and documents any deviations and provides immediate feedback to the production process.



Reliability

Ceme is part of "Global Impact Global Compact", the world's largest voluntary sustainability initiative and the only signatory of all 10 principles with universal membership. Human Rights, labor environment and anti corruption.

Controllo statistico

Controllo statistico di tutte le materie prime in entrata con l'adozione di un sistema 100% di ispezione.

Verifica produttiva

Controllo immediato del prodotto in uscita dal Dipartimento Qualità CEME prima della spedizione, con segnalazione immediata al comparto produttivo.

Sostenibilità

Cume fa parte di "United Nations Global Compact", la più grande iniziativa volontaria al mondo con l'obiettivo di allineare strategie e operazioni a principi universali in materia di diritti umani, lavoro ambiente e anticorruzione.

CEME's ISO 9001 e ISO 14001 certification for all production sites is an important witness for us and just one of the steps in the efficiency and responsibility process we want to complete with our partners. Defining, measuring, analyzing, enhancing and checking upon this is CEME's systems procedure, followed in all design, production and management processes. The aim is to guarantee quality, to meet all customer needs and expectations.

Impegno-8 CEME è iscritta a l'attuazione della direttiva ISO 14001 per tutti i siti produttivi e per noi un aspetto importante è solo una tappa di un percorso di efficienza e responsabilità che vogliamo percorrere con i nostri partner. Definire, misurare, analizzare, migliorare e controllare è tutto questo il filo del nostro CEME, focalizzato sul complesso del processo di progettazione, produzione e gestione. Per una qualità garantita, a piena soddisfazione di tutte le necessità e le aspettative del cliente.

Controllo dei processi per risultati di eccellenza: CEME, QUALITÀ GARANTITA ED ECOSOSTENIBILE

Negli anni, CEME ha sviluppato un controllo qualità completo e integrato, per coprire tutte le fasi della produzione e garantire ai clienti risultati di eccellenza, senza che nulla sia lasciato al caso. CEME pensa

un'ottimizzazione industriale a tutto 360° che nasce e si evolve grazie alle competenze di sviluppo tecnologico e processi di produttività implementati, nel pieno rispetto dell'ambiente.



Automatic control

Automation with an intelligent system (PLC). The system continuously monitors the quality, which are also checked by CEME quality control department staff.

Controllo automatico

Controllo automatico con PLC (il cui lavoro è automatizzato) per il controllo continuo della qualità e la Audit del Dipartimento QUALITÀ CEME.

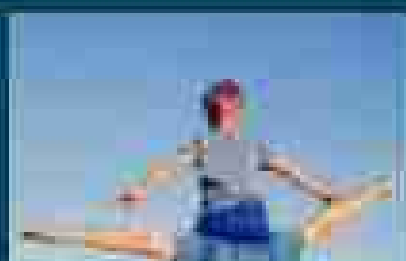


Environment

Now, one of the New Program strategies is to support companies in the development of a green awareness on the impact activities have on the environment.

Ambiente

Ora delle processi sono tutti a punto di farne parte integrante di una comunicazione maggior rispetto all'aspetto Verde anche il nostro lavoro sull'ambiente.

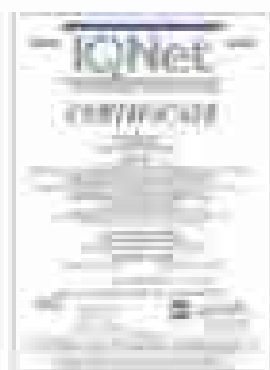


Key

Today, one of the most important strategies to support companies is the development of a quality awareness on the impact activities have on the environment.

Chi

Ora delle processi sono tutti a punto di farne parte integrante di una comunicazione maggior rispetto all'aspetto Verde anche il nostro lavoro sull'ambiente.

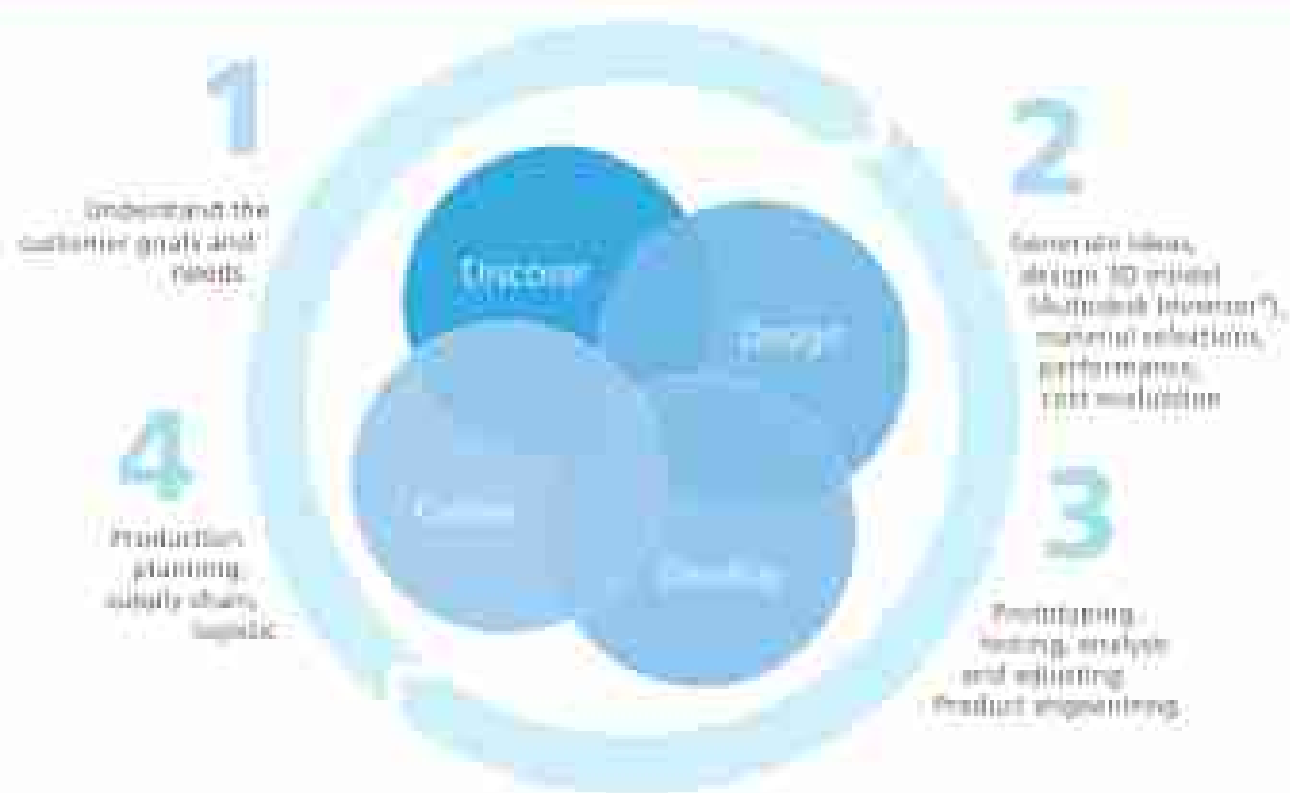




Where you can find us



Custom made project development



Our global market





SOLENOID VALVES / *Elettrovalvole*



The technical features shown in this chapter will assist in selecting the correct valve for your application.

The selected valves shown in this catalogue are standard production valves only. For non standard valves or special applications, please contact our sales technical department who will be pleased to help.

DEFINITION

A solenoid valve is a combination of two functional, material parts:

- a solenoid (electromagnet)
- a valve body with two or three ways designed
- it is used to open and close a fluid path controlled by an electrical signal

CLASSIFICATION

All the features described in this chapter are illustrated in detailed form for each model in the general notes.

The solenoid valves were classified according to the following features:

- **NUMBER OF WAYS**
- **POSITIONS**
- **CONDITION OF PERFORMANCE**
- **FUNCTIONING PRINCIPLE**

NUMBER OF WAYS

The ways are the connection points with the circuit:

2 WAY - 21 one inlet, one outlet

3 WAY - 31 one (real), one outlet and one self-closure. The three ways could be used differently according to obtain a fluid selecting or a combining of fluids. Almost the whole of the production is shared in two or three WAY valves although for some special projects five WAY valves (3225) have been produced.

POSITIONS /2

This feature refers to the type of passage, if constant or regulable flow rate. All our production is executed in the two position version ON/OFF, open/close. The only variations are represented by the regulation type "manual override", the variations of the flow rate were obtained through a regulator device built directly into the solenoid valve (see models 3434, 6535, 6736, 6834, 9023).



CONDITIONS OF PERFORMANCE

Verify if the valve operates in any time **OPENED** (with fluid parts) or **CLOSED** (without fluid parts).

N.C. Normally closed: The valve is closed by no power supply to the terminals of the coil.

N.O. Normally opened: On the contrary the valve is opened by above mentioned conditions.

FUNCTIONING PRINCIPLE

Depending on the maximum pressure that has to be interrupted, equal to 0 or more than 0, there are two large valve families: direct acting or servo piloted.

Depending on the functioning principle, the valves were divided in two categories:

DIRECT ACTING: Means that the fluid passage becomes opened or closed by a sealing measured directly on the magnetic plunger actuated by the coil. The working pressure is directly connected to the relief diameter and to the power of the coil, and the minimum working pressure is 0.

SERVO PILOTED: A kind of a pilot valve and a master orifice. The magnetic coil opens and closes only the pilot valve to the maximum and minimum working pressure doesn't depend upon the coil power but from the sealing construction features on the master orifice (okaph/ogm, gsmx).

For this type of valve the minimum working pressure is a fundamental feature and is always different and more than 0.

Example: 5511 - 20 N.C. DIRECT ACTING
6734 - 30 N.C. DIRECT ACTING
6013 - 30 N.C. DIRECT ACTING
8814 - 30 N.C. SERVO PILOTED

Now we have described the fundamental features of a valve, all these are resumed in the "GENERAL DATA".

The project information that follows are more detailed, therefore it would be possible to verify them only by consulting the specific catalogue page.

Le informazioni tecniche contenute in questa pagina ti aiuteranno a selezionare la giusta valvola per la tua applicazione. Ovviamente in questo capitolo non tratteremo solo le elettrovalvole standard, tutte le valcolibri speciali, in particolare progettate per e con il cliente, non sono state trascurate. Nel caso non dovessi trovare la giusta soluzione per te, ti consigliamo di contattare direttamente la nostra azienda.

DEFINIZIONE

Una elettrovalvola è la combinazione di due parti funzionali fondamentali:

un solenoide (elettromagnetico)

un corpo valvola con uno o più passaggi

Serve per risolvere ed aprire un passaggio di un fluido in un circuito tramite un comando elettrico.

CLASSIFICAZIONE

Tutte le caratteristiche descritte in questo capitolo sono raccolte in modo dettagliato per ogni modello nell'indice generale.

Le elettrovalvole vengono classificate secondo le seguenti caratteristiche:

- NUMERO DI VIE
- POSIZIONI
- STATO A RIPOSO
- PRINCIPIO DI FUNZIONAMENTO

NUMERO DI VIE

Le vie sono i punti di collegamento con il circuito.

2 VIE - in una direzione ed una uscita

3 VIE - in una direzione, una uscita ed una ritorno oppure in 3 VIE possono essere utilizzate in altre configurazioni per avere una direzione ed un fluido oppure una miscelazione di più fluidi. La (sua) scelta della produzione è ripartita in versioni a 2 e 3 VIE anche se per alcuni progetti speciali si sono avuti anche valvole a 4 VIE (RARE).

POSIZIONI

Quanto caratterizzata è il numero di posizioni che la valvola può assumere in una data fase o regolabile. Tutta la nostra produzione è ideata nella versione a due posizioni ON/OFF apertur/chiusa.

Le valvole speciali esistenti sono delle regolazioni di tipo "manuale" vengono cioè ottenute dall'installazione di flange e maniglie manuali applicate direttamente sulle elettrovalvole (vedi modelli E204, E205, E206, E207, E208).



STATO A RIPOSO

Verificare se la valvola deve rimanere più tempo APERTA con passaggio del fluido oppure CHIUSA senza passaggio.

N.C. Normalmente chiusa la valvola sparisce non c'è alimentazione elettrica al polo del solenoide, e chiude.

N.A. Normalmente aperta significa la valvola è aperta nella sua stessa condizione.

PRINCIPIO DI FUNZIONAMENTO

A seconda del valore nominale di pressione che deve essere sopportata, uguale o il 10% maggiore di 10, ci sono due grandi famiglie di valvole ad azione diretta ed azione servocomandata. Secondo il principio di funzionamento le valvole si suddividono in due categorie:

AZIONE DIRETTA significa che il passaggio viene aperto o chiuso da una molla montata direttamente sul nucleo magnetico che viene attratto dalla bobina. La pressione di funzionamento è quindi legata direttamente al diametro di passaggio e alla potenza della bobina e la minima pressione di funzionamento è uguale a 0.

AZIONE SERVO COMANDATA esiste un ventoso pilota e un orificio principale, il vago che anche ad aprire e chiudere apre il piloti quindi la risposta e la minima pressione di funzionamento non dipenderanno dalla potenza del solenoide ma dalla caratteristica costruttiva della valvola sull'orificio principale (mandando il piloti).

Per questo tipo di valvole la caratteristica fondamentale da tenere presente al funzionamento che è sempre diversa e maggiore di 0.

Numero	E211 - 22 N.C. (AZIONE DIRETTA)
	E204 - 22 N.C. (AZIONE DIRETTA)
	E205 - 30 N.C. (AZIONE DIRETTA)
	E214 - 20 N.C. (AZIONE SERVO COMANDATA)

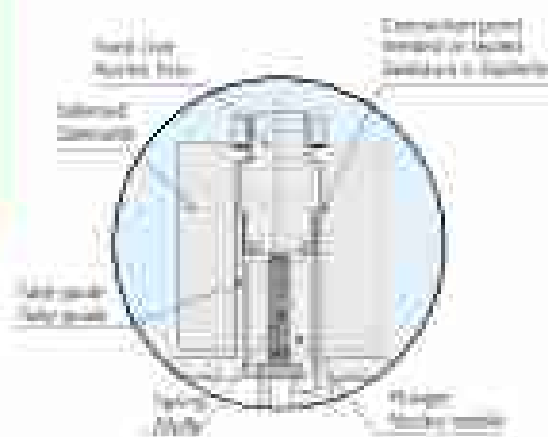
A questo punto abbiamo descritto le caratteristiche fondamentali di una valvola, tutte quelle sono state raccolte nell'INDICE GENERALE.

Le indicazioni di progetto che seguiranno sono più dettagliate, con questi potrai verificare con sicurezza la giusta pagina di catalogo.

2.2.2 Data sheet of Association elements

111	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225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3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7	3.1.8	3.1.9	3.1.10	3.1.11	3.1.12	3.1.13	3.1.14	3.1.15	3.1.16	3.1.17	3.1.18	3.1.19	3.1.20	3.1.21	3.1.22	3.1.23	3.1.24	3.1.25	3.1.26	3.1.27	3.1.28	3.1.29	3.1.30	3.1.31	3.1.32	3.1.33	3.1.34	3.1.35	3.1.36	3.1.37	3.1.38	3.1.39	3.1.40	3.1.41	3.1.42	3.1.43	3.1.44	3.1.45	3.1.46	3.1.47	3.1.48	3.1.49	3.1.50	3.1.51	3.1.52	3.1.53	3.1.54	3.1.55	3.1.56	3.1.57	3.1.58	3.1.59	3.1.60	3.1.61	3.1.62	3.1.63	3.1.64	3.1.65	3.1.66	3.1.67	3.1.68	3.1.69	3.1.70	3.1.71	3.1.72	3.1.73	3.1.74	3.1.75	3.1.76	3.1.77	3.1.78	3.1.79	3.1.80	3.1.81	3.1.82	3.1.83	3.1.84	3.1.85	3.1.86	3.1.87	3.1.88	3.1.89	3.1.90	3.1.91	3.1.92	3.1.93	3.1.94	3.1.95	3.1.96	3.1.97	3.1.98	3.1.99	3.1.100	3.1.101	3.1.102	3.1.103	3.1.104	3.1.105	3.1.106	3.1.107	3.1.108	3.1.109	3.1.110	3.1.111	3.1.112	3.1.113	3.1.114	3.1.115	3.1.116	3.1.117	3.1.118	3.1.119	3.1.120	3.1.121	3.1.122	3.1.123	3.1.124	3.1.125	3.1.126	3.1.127	3.1.128	3.1.129	3.1.130	3.1.131	3.1.132	3.1.133	3.1.134	3.1.135	3.1.136	3.1.137	3.1.138	3.1.139	3.1.140	3.1.141	3.1.142	3.1.143	3.1.144	3.1.145	3.1.146	3.1.147	3.1.148	3.1.149	3.1.150	3.1.151	3.1.152	3.1.153	3.1.154	3.1.155	3.1.156	3.1.157	3.1.158	3.1.159	3.1.160	3.1.161	3.1.162	3.1.163	3.1.164	3.1.165	3.1.166	3.1.167	3.1.168	3.1.169	3.1.170	3.1.171	3.1.172	3.1.173	3.1.174	3.1.175	3.1.176	3.1.177	3.1.178	3.1.179	3.1.180	3.1.181	3.1.182	3.1.183	3.1.184	3.1.185	3.1.186	3.1.187	3.1.188	3.1.189	3.1.190	3.1.191	3.1.192	3.1.193	3.1.194	3.1.195	3.1.196	3.1.197	3.1.198	3.1.199	3.1.200	3.1.201	3.1.202	3.1.203	3.1.204	3.1.205	3.1.206	3.1.207	3.1.208	3.1.209	3.1.210	3.1.211	3.1.212	3.1.213	3.1.214	3.1.215	3.1.216	3.1.217	3.1.218	3.1.219	3.1.220	3.1.221	3.1.222	3.1.223	3.1.224	3.1.225	3.1.226	3.1.227	3.1.228	3.1.229	3.1.230	3.1.231	3.1.232	3.1.233	3.1.234	3.1.235	3.1.236	3.1.237	3.1.238	3.1.239	3.1.240	3.1.241	3.1.242	3.1.243	3.1.244	3.1.245	3.1.246	3.1.247	3.1.248	3.1.249	3.1.250	3.1.251	3.1.252	3.1.253	3.1.254	3.1.255	3.1.256	3.1.257	3.1.258	3.1.259	3.1.260	3.1.261	3.1.262	3.1.263	3.1.264	3.1.265	3.1.266	3.1.267	3.1.268	3.1.269	3.1.270	3.1.271	3.1.272	3.1.273	3.1.274	3.1.275	3.1.276	3.1.277	3.1.278	3.1.279	3.1.280	3.1.281	3.1.282	3.1.283	3.1.284	3.1.285	3.1.286	3.1.287	3.1.288	3.1.289	3.1.290	3.1.291	3.1.292	3.1.293	3.1.294	3.1.295	3.1.296	3.1.297	3.1.298	3.1.299	3.1.300	3.1.301	3.1.302	3.1.303	3.1.304	3.1.305	3.1.306	3.1.307	3.1.308	3.1.309	3.1.310	3.1.311	3.1.312	3.1.313	3.1.314	3.1.315	3.1.316	3.1.317	3.1.318	3.1.319	3.1.320	3.1.321	3.1.322	3.1.
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The designing of solenoid valves represents one of the main parts of the customer's service. This always has been a strong point of our development competence. For this reason, the present chapter specifies the most technological features, enabling our customers to become the best collaborators in the designing of new products.

OPERATION PRINCIPLES

An already mentioned solenoid valve is the combination of two main parts: one is the electromagnetic, made up by a solenoid and its movable part, and the second is the valve body with the relative direct connections, both for air and water.

The solenoid coil core is formed by both parts: it has the basic characteristics of a solenoid inductor of the guide housing into which a plunger operates. This can be the main part of it can in turn give the command for performing the solenoid's main fluid actuating.

In the solenoid, the internal space is occupied by ferromagnetic material which constitutes the coil inductor core and head core.

When the coil is energized by an electrical current, a magnetic field is generated that will cause the movement of the mobile part, which is free to slide in the guide inside out of ferromagnetic material towards the head core which in turn is fixed in the same housing by way of rubbing or through a thin sealing sleeve.

In the normally closed valve version, the mobile core is kept apart from the head core or moved towards it by a spring that will return it to the same position after the action of the magnetic field will have ceased.

La progettazione delle valvole con loro relative le connessioni ed il cliente è stato il punto di forza del nostro sviluppo. Per questo motivo, nel presente capitolo specificiamo le nostre tecniche più importanti, affinché i nostri clienti siano i migliori collaboratori nella progettazione dei nuovi prodotti.

PRINCIPIO DI FUNZIONAMENTO

Una elettrovalvola è formata da due parti: la prima parte fondamentale, uno è l'elettromagnete, composto da un solenoide e il suo nucleo mobile, e il secondo è il corpo valvola con i relativi attacchi per il fluido, con una o più vie.

L'elettromagnete è formato dalla "a" e "b" parte che sono caratterizzate dall'induzione di un solenoide all'interno del quale c'è un nucleo mobile che può essere quello per il quale si dà comando, che effettua quindi una azione oppure una azione intermedia del fluido.

Nei solenoide la parte mobile è munita di un materiale ferromagnetico che costituisce il nucleo mobile e il nucleo mobile. Quando la bobina è energizzata da corrente elettrica, si genera un campo magnetico che provoca il movimento del nucleo mobile verso il centro del tubo guida di trasferimento magnetico verso il nucleo fisso. Questo nucleo è ancorato al corpo valvola e un innalzamento con il fluido per il fluido.

Nella versione di valvola normalmente chiusa il nucleo mobile viene mantenuto separato dal nucleo fisso in posizione di riposo da una molla che lo spinge nella stessa posizione dopo che cessa l'azione del campo magnetico.



FIG. 16

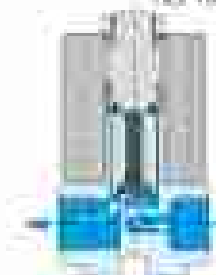


FIG. 17

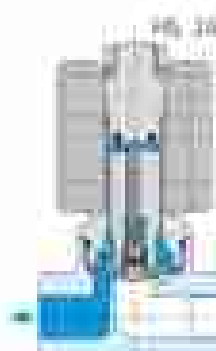


FIG. 18

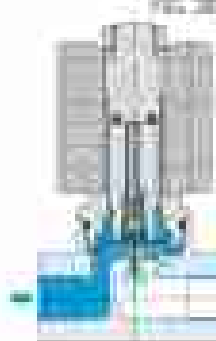


FIG. 19

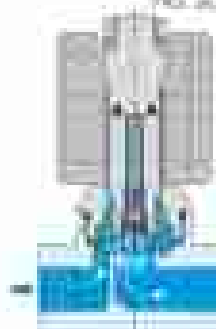


FIG. 20

TYPES OF OPERATION

According to the type of operation considered, the following categorization of control valves can be established:

DIRECT ACTION

CLOSED POSITION (FIG. 16)

In rest position the coil is not energized by a current, with the help of the fluid pressure, the contracting spring the seating part against the open seat surface, thus keeping the valve closed.

OPEN POSITION (FIG. 17)

When the control valve is energized, the mobile core is attracted by the lead core, thus allowing the fluid to flow through the central valve opening. The resultant pressure difference (delta P) (delta P) is reduced with the increasing of the valve diameter.

SERVO-CONTROLLED ACTION

CLOSED POSITION (FIG. 21A)

In rest position, through the regulating opening, the fluid exerts a pressure on the seating part of the valve with a membrane. The valve part remains in closed position (also, at rest fluid pressure, the upper surface is greater than the lower one).

OPEN POSITION (FIG. 21B)

When the control valve is energized, the mobile core is opened. A drop in fluid pressure is caused on the lower surface of the valve membrane, which causes its lifting by way of the fluid's pressure on the lower surface (FIG. 21C).

The correct operation is a mandatory for the valve opening to be of a diameter greater than the regulating one. Therefore, the topology of valve tolerances is mandatory pre-established for correct operation to be guaranteed.

SERVO-ASSISTED OR MIXED OPERATION

There are 2 types of valve: the difference that the control part serves (mobile core) is close coupled to the membrane, thus already guaranteeing proper operation (FIG. 22).

NORMALLY OPEN VALVES

There is also the possibility of having the normally open valves.

This is obtained by inverting the position mobile core in relation to the fixed one (FIG. 23, 24, 25).

The mobile core is kept in the open position by a spring; when the coil is energized, the mobile core is driven towards the seat of the fixed core, thus shutting off the valve.

TIPI DI FUNZIONAMENTO

A seconda del modo di comando possono essere delle seguenti categorie di elettrovalvole:

AZIONAMENTO DIRETTO

POSIZIONE CHIUSA (FIG. 16)

In posizione di riposo l'elettrovalvola non è azionata da corrente, la molla del nucleo spinge, con l'aiuto della pressione del fluido, la sede di chiusura sulla sede (sempre) della valvola mantenendola in chiusura della valvola.

POSIZIONE APERTA (FIG. 17)

Quando il nucleo è alimentato, il nucleo mobile viene attratto dal nucleo fisso permettendo il passaggio del fluido e l'apertura dell'elettrovalvola. La risultante differenza di pressione (delta P) (delta P) diminuisce all'aumentare del diametro della valvola.

AZIONAMENTO SERVO COMANDO

POSIZIONE CHIUSA (FIG. 21A)

In posizione di riposo il fluido, attraverso il foro di regolazione, esercita una pressione sulla membrana dell'orificio principale (membrana). L'attuatore rimane in posizione di chiusura perché la parte di pressione del fluido, la superiore superiore è maggiore di quella inferiore.

POSIZIONE APERTA (FIG. 21B)

Quando si aziona l'elettrovalvola, il foro di sede si apre. Si provoca una caduta di pressione del fluido sulla superficie superiore della membrana principale e quindi il sollevamento della stessa tramite la pressione del fluido sulla sua superficie inferiore (FIG. 21C).

Per un funzionamento corretto è necessario che il foro di uscita abbia un diametro maggiore di quello di regolazione. Questa tipologia di valvole prevede anche un nucleo unico di pressione per garantire il funzionamento.

AZIONAMENTO SERVO ASSISTITO O MISTO

Sono della stessa tipologia di quelle servocomandate con la differenza che l'attuatore di comando (molla) non è collegato alla membrana principale con una forza molto più alta (FIG. 22).

VALVOLE NORMALMENTE APERTE

Esiste la possibilità di avere anche le valvole normalmente aperte.

Questo si ottiene invertendo la posizione del nucleo mobile rispetto al suo sede (FIG. 23, 24, 25).

Il nucleo mobile viene trattenuto in posizione aperta da una molla; quando viene alimentato la bobina, il nucleo mobile, attratto verso la sede del nucleo fisso, chiude il passaggio.

PRESSURE

The pressure specification, stated for the definition of a valve, is **DP**, or other words the pressure differential between inlet and outlet.

This specification is made up of two fundamental values which express the minimum and maximum operating pressure differential.

Maximum operating pressure differential (M.O.P.D.)

It is the maximum value of the differential between the pressure of the fluid at the inlet and of that of the outlet, when the valve is open in direct and reverse (back) or the flow through forward and the power of the direct action valve coil.

The greater this value the greater the M.O.P.D. for semi-controlled valves instead, the maximum M.O.P.D. value is controlled in the majority of cases by the manufacturing firm of the valve pump, seal or of other components of the valve.

Minimum operating pressure differential

For all direct action valves this is equal to 0. For semi-controlled valves, it again depends on the manufacturing firm of the pump seal for the main valve (the minimum value of CETME 86 is equal to 0.3 bar, for pump valves of CETME 90 it is equal to 1 bar).

The difference will become clearer after having read the paragraph dealing with the nominal pressure.

PRESSIONE

La caratteristica di pressione fondamentale per la definizione di una valvola è **DP** cioè la pressione differenziale da ingresso a uscita della valvola. Questa caratteristica è composta di due valori fondamentali la minima e la massima pressione differenziale di funzionamento.

Massima pressione differenziale di funzionamento (M.O.P.D.)

È il valore massimo della differenza tra la pressione del fluido in ingresso e di quello di uscita che la valvola riesce ad indovinare e dipende direttamente dal diametro di passaggio e dalla potenza della bobina per le valvole ad azione diretta.

Per l'indotto è previsto il valore di M.O.P.D. per le valvole semi-controllate invece il valore massimo di M.O.P.D. è determinato dalla maggior parte dei casi dai altri componenti delorgano di tenuta dell'otturatore, o di altri componenti della valvola.

Minima pressione differenziale di funzionamento

Per tutte le valvole ad azione diretta è uguale a 0, per le valvole semi-controllate dipende invece che tipo costruttivo dell'organo di tenuta dell'otturatore principale (valvola a membrana CETME 86 è uguale a 0,3 bar, valvola a pistone CETME 90 è uguale a 1 bar).

Questo concetto spetterà più chiaro dopo aver letto il paragrafo relativo al funzionamento.

FLOW-RATE

Between the connection and the flow through it there is a valve factor K_v which defines the valve "surface" through flow. The K_v flow coefficient defines the flow rate Q in cubic meters per hour of water at 20°C which generates a pressure drop $\Delta P = 1$ bar for a determined opening of the valve.

The K_v values indicated in the table are referred to water at 20°C and refer to a totally open valve and have been determined according to the parameters of norm ISO 5167-2:2012. The K_v is therefore expressed in m³/h and is an international unit used in the construction of selected valves.

In addition, due to ISO 5167-2, other pressure factors, there are also further flow-rate coefficients, listed as follows with the relative conversions:

K_v (m³/h) $\times 0.865 =$	C_v (m³/h)	K_v (m³/h) $\times 0.177 =$ (US GPM)
C_v (US GPM) $\times 0.865 =$	C_v (m³/h)	K_v (m³/h) $\times 1.78 =$ (US GPM)
C_v (US GPM) $\times 1.36 =$ (US GPM)	C_v (m³/h)	K_v (m³/h) $\times 0.87 =$ (US GPM)

For all models, a diagram is provided PRESSURE DROP DATA showing the curve between pressure and flow (ΔP vs. Q) at the correct value for the correct wall point) can be defined.

All the flow-rate values for water at 20°C with viscosity up to 17 mPa·s are therefore determined.

For other types of fluids our service engineers should be contacted.

For valves suitable for refrigeration fluids (R22, R134a, R404, R410A, R507, etc.), the correct flow-rate capacity values relative to the different applications on the refrigeration circuit (subcooled, hot gas, flash) have been calculated.

Refer to the table at the end of this chapter.

PORTATA

Per il coefficiente di portata K_v si intende la portata in m³/h di acqua a 20°C che genera una caduta di pressione $\Delta P = 1$ bar per una determinata apertura della valvola.

I valori K_v indicati in tabella si riferiscono per valvole completamente aperte e sono stati determinati secondo i parametri della norma ISO 5167-2:2012. Il K_v viene quindi espresso in m³/h ed è un'unità internazionale per la costruzione delle valvole.

Inoltre, per conformità a altre norme, anche alcuni coefficienti di portata con quali esprimere il rapporto di portata in rapporto alla portata.

K_v (m³/h) $\times 0.865 =$	C_v (m³/h)	K_v (m³/h) $\times 0.177 =$ (US GPM)
C_v (US GPM) $\times 0.865 =$	C_v (m³/h)	K_v (m³/h) $\times 1.78 =$ (US GPM)
C_v (US GPM) $\times 1.36 =$ (US GPM)	C_v (m³/h)	K_v (m³/h) $\times 0.87 =$ (US GPM)

Per tutti i modelli è presente un grafico PERDITA DI CARICA che mostra la relazione tra pressione e portata, nonché permette individuare la valvola giusta per l'utente di questo sistema.

Tutti i valori di portata sono quindi determinati per acqua oppure fluidi liquidi con viscosità fino a 17 mPa·s.

Per altri tipi di fluidi contattare il nostro servizio tecnico.

Tutte valvole adatte per fluidi refrigeranti (R22, R134a, R404, R410A, R507, ecc.) sono state calcolate le varie capacità di portata in funzione della diversa applicazione (sottoraffreddato, gas surriscaldato, flash).

Per maggiori informazioni:

RESPONSE TIME

The valve response time is dependent of the time taken by the pressure upstream from the valve, to reach 50% of the difference between the pressure in the closed and open valve.

The following are reference values relating to the different typologies and dimensions of valves.

SMALL DIAMETERS	3-4 mm	DIRECT ACTION	10-15 milliseconds
MEDIUM DIAMETERS	4-7 mm	DIRECT ACTION	20-40 milliseconds
MEDIUM DIAMETERS	8-20 mm	SERVO-CONTROLLED ACTION	20-40 milliseconds
LARGE DIAMETERS	25-75 mm	SERVO-CONTROLLED ACTION	50-80 milliseconds
ENORME DIAMETERS	20-70 mm	SERVO-CONTROLLED ACTION (PITONO)	100-200 milliseconds

The above response times are, however, only indicative, since they vary after the valve's manufacturing specifications, an important role in the variation of these times is played by the different specifications pertaining to the application (fluid, density, temperature, pressure, etc.).

TEMPO DI RISPOSTA

Il tempo di risposta di una valvola è correlato al tempo che occorre al mezzo della valvola, a raggiungere il 50% della differenza fra pressione a valvola chiusa e aperta.

Di seguito alcuni valori di riferimento in funzione della diversa tipologia e dimensioni di valvole.

DIAMETRI PICCOLI	3-4 mm	AZIONE DIRETTA	10-15 millisecondi
DIAMETRI MED	4-7 mm	AZIONE DIRETTA	20-40 millisecondi
DIAMETRI MED	8-20 mm	AZIONE SERVOCOMANDATA	20-40 millisecondi
DIAMETRI GRANDI	25-75 mm	AZIONE SERVOCOMANDATA	50-80 millisecondi
DIAMETRI ENORMI	20-70 mm	AZIONE SERVOCOMANDATA (PITONO)	100-200 millisecondi

I tempi di risposta indicati, sono però solo indicativi dato che essi variano in base alle caratteristiche costruttive della valvola, un ruolo fondamentale nella variazione di questi tempi è dato dalle diverse applicazioni di applicazione (fluidi, densità, temperatura, pressione, ecc.).

COMPATIBILITY/FLUIDS

The choice of one of the sealing materials, required for the different mechanical and application conditions, even in relation to the same type of material too, makes it difficult to give complete and valid information on the compatibility of valves with the different fluids.

We therefore judge it more effective to provide a brief description of the general specifications of the various sealing elements, referring any further requests for information concerning the compatibility specifications of valves, directly to our technical service.

ATTENTION: the use with nitrogen compounds (for ex. Ammonia) can cause the corrosion and leakage of the lower components.

NBR BUNA	Excellent. The most valued sealing element, due to its good mechanical performance coupled with optimal compatibility, constituting with the piston part of these valves, oil, greases and petrol. Standard operating temperature	-30°C + 80°C
EPDM ETHYLENE POLYMER	Excellent. The high value of resistance to temperature makes it indispensable for ethylene, hot steam and hot water. The use is not advised for fluids in which oil are present. Standard operating temperature	-30°C + 150°C
FKM FLUORINE ELASTOMER ACETON	Excellent. For its optimal specificities of compatibility and resistance to high temperatures. From the correct solution for applications in which EPDM and NBR are respectively not suitable. Standard operating temperature	-40°C + 180°C
PTFE POLYTETRA FLUORIDE ETHYLENE	Solid and inert material, for this reason is practically compatible with all the types of fluids. Made from the "chemical" oil industry, by way of a personalized system with LUK production, it was adapted for guaranteeing "perfect" sealing in valves for refrigerating fluids. Standard operating temperature	-40°C + 200°C
LSR LITHIUM SEALANT BUTADIENE	It is a two-component fluid whose, unlike for the solid-state of elastic materials, through the injection-molding process. Thanks to its excellent thermodynamic, excellent resistance to aging, excellent elastic characteristics, excellent bearing load with high temperature range of use, LSR is used especially in the food and medical sectors.	-40°C + 250°C

The materials are compatible with the fluids listed for each single model and intended to cover a fluid viscosity of 17-5000 cP.

COMPATIBILITÀ/FLUIDI

La compatibilità delle resine e le diverse conformazioni meccaniche applicative sono per lo stesso tipo di resina indicate nell'elenco dei dati tecnici e nella tabella di compatibilità delle resine con i fluidi fluidi.

Questo manuale può essere usato come linea di riferimento delle caratteristiche generali delle varie resine, consultando ad un contatto diretto con il nostro Servizio Tecnico qualsiasi ulteriore informazione a riguardo di una certa resina e dei suoi usi in campo medico.

ATTENZIONE: l'utensile con cui si applica la resina (e, eventualmente, per la sua cura) deve essere in grado di resistere alle temperature di cottura.

AM AMBI	Resine: La resina più utilizzata per le sue buone performance meccaniche compatibili e chimiche con i fluidi corporei e la maggior parte dei fluidi medici (AC, gasi, e gel).	Temperature di utilizzo standard	20°C + 30°C
DM DMB	Resine: La resina di resistenza alle temperature di cottura (100°C) e alla corrosione nell'uso.	Temperature di utilizzo standard	20°C + 30°C
DM DMB	Resine: Per le sue buone caratteristiche di compatibilità e resistenza alle alte temperature e la sua buona qualità per le applicazioni che richiedono una buona qualità.	Temperature di utilizzo standard	20°C + 30°C
PTB PTB	Resine: La resina di resistenza alle temperature di cottura (100°C) e alla corrosione nell'uso.	Temperature di utilizzo standard	20°C + 30°C
PTB PTB	Resine: La resina di resistenza alle temperature di cottura (100°C) e alla corrosione nell'uso.	Temperature di utilizzo standard	20°C + 30°C
LR LR	Resine: La resina di resistenza alle temperature di cottura (100°C) e alla corrosione nell'uso.	Temperature di utilizzo standard	20°C + 30°C

La tabella di compatibilità con i fluidi corporei per ogni singolo modello d'interfaccia per una resina è indicata nel manuale.

INSPECTION EASE

Inspection ease means that the operation of detaching the wire can be carried out without disturbing the function of the product.

If the application makes it necessary to detach the internal wire for cleaning or maintenance reasons, please refer to the note "removable valve" available only in Italian and English.

ISPEZIONABILITÀ

Ispezionabilità significa che l'operazione di smontare la valvola può essere effettuata senza compromettere la funzionalità del prodotto.

Se nell'applicazione è necessario smontare la valvola per pulizia o manutenzione, fare riferimento alla nota "valvola ispezionabile" presente solo in italiano e in inglese.

ELECTRICAL SPECIFICATIONS

The solenoids are manufactured in accordance with standards of European countries and international norms. Temperature is 100°C.

COLOUR BLUE
COLORE AZZURRO



Temperature: The valves are supplied in standard version at 50 Hz. Most parts are subjected after 10 000 Hz tests. On request, the valves can be supplied with 50/60 Hz or just 60 Hz coils. In this case, the design data must be requested to our technical office.

Tolerance: $\pm 5\%$ $\pm 6\%$ $\pm 10\%$ AC
 $\pm 5\%$ $\pm 10\%$ V rated DC

Thermal class: H (180°C) or G (200°C)

Materials:

- sandwich copper wire in class H (180°C) or H (200°C)
- encapsulated coil
- CLASS H
- CLASS H
- PROTECT FERRA
- PROTECT LINE
- MAGNETIC ARMATURE

POSSIBILI: FERRA + FERRA
FERRA + FERRA
FERRA + FERRA

Special implementations: For each product, the catalogue lists the performance with standard type coils for 100%. For special coils, special low-consumption coils for low-consumption systems are available.

CARATTERISTICHE ELETTRICHE

I solenoidi sono costruiti secondo le caratteristiche e le normative internazionali, per funzionare a tensione nominale per 100%.

Temperatura: Le valvole vengono fornite in versione standard a 50 Hz. La maggior parte delle parti sono sottoposte a 10 000 Hz di prova. Su richiesta, le valvole possono essere fornite con bobine a 50/60 Hz o solo a 60 Hz. In questo caso, i dati di progetto devono essere richiesti al nostro ufficio tecnico.

Tolleranze: $\pm 5\%$ $\pm 6\%$ $\pm 10\%$ AC
 $\pm 5\%$ $\pm 10\%$ V rated DC

Classe termica: H (180°C) o G (200°C)

Materiali:

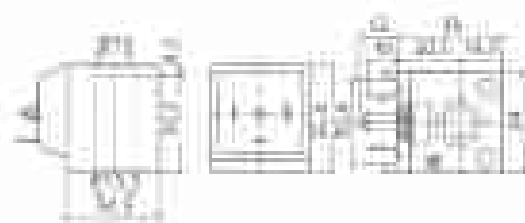
- filo di rame avvolto in classe H (180°C) oppure in G (200°C)
- incapsulato ed impermeabile
- CLASS H
- CLASS H
- PROTECT FERRA
- PROTECT LINE
- ARMATURA MAGNETICA

POSSIBILI: FERRA + FERRA
FERRA + FERRA
FERRA + FERRA

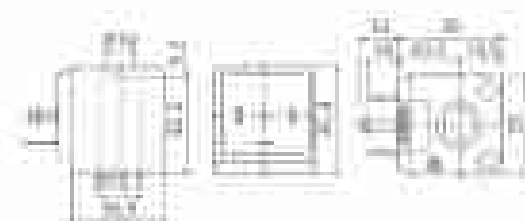
Implementazioni speciali: Per ogni prodotto, il catalogo indica le prestazioni con le bobine di tipo standard per il 100%. Sono disponibili per richiesta bobine speciali a consumo ridotto per sistemi a basso consumo.



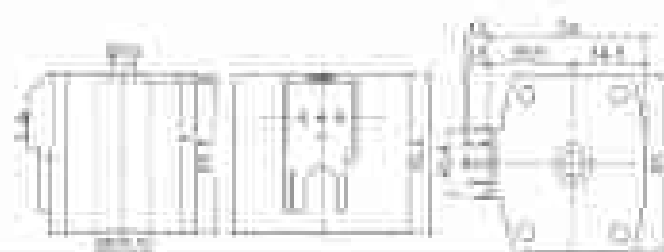
04



05 series



06



080

Note

To turn the coil position, it is necessary to slack the lock nut. When you lock again the nut, pay attention to a torque of 2 Nm for the series 04, 05, 06, 08, and a torque of 4 Nm for all other series for technical reasons.

Note

Per ruotare la posizione della bobina è necessario allentare il dado. Dopo avere allentaggio del dado, prestare attenzione a una forza di serraggio pari a 2 Nm per le serie 04, 05, 06 ed 08, 4 Nm per tutte le altre serie.

RELIABILITY

The solenoid valves are designed and manufactured to safely operate in various applications for long operating times. To prove this, CETME has made available professional testing cycles for the different types of fluids, air, water, steam and from other normal or extreme conditions (dynamic chamber).

AFFIDABILITÀ

Le elettrovallvole sono progettate e costruite per funzionare in variabili condizioni nelle varie applicazioni per lunghi periodi. Per verificare ciò la CETME ha predisposto cicli di prova professionali per diversi tipi di fluidi: aria, acqua, vapore, fluidi in condizioni normali o estreme (camera dinamica).

TECHNOPOLYMER SOLENOID VALVE 3/2 WAY N.C.
 Durchschaltzeit in Technopoliturng 3/2 am N.C.



PAPERBACK

- M2 very short along H.C.
- D = 10 bar
- M2 approved
- Thermodynamic: $1000 \times 10^3 \text{ J/mol}$
- Tube in current mode
- Test in M2 test mode

PRODUCT DESCRIPTION

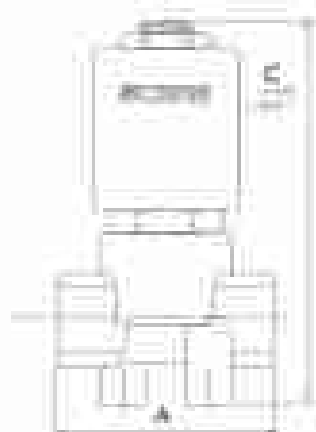
Values are available with different characteristics and combinations in order to meet up to 100,000 users.

UNIVERSITY OF CALIFORNIA, BERKELEY

[illegible]

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Basic material / Material group	Thermoplast PA 12/12 P30		
Sub material / Material description	PA12 / 1200 g/m ²		
Thin Material / Material grade No.	Dinamex 3000		
Working fluid / Fluid pressure	Air, 6-8 bar		
Service contact / Service address	E.J. a E.J. Techniek Service - 06 40 00 00 00		
Production time / Order processing time	Production time 1000000		
Tool version / Release	11112000C 10.000A	10112000C 1000	12.00.00C
Tool power / Power maximum	11.1 kW	10 kW	10W
Arround temp. / Temp. ambient	80°C	80°C	80°C
Part temp. / Temp. Part	140°C	140°C	140°C
Material / Oil Pressure	200 GPa MPa	100 MPa	100 MPa



Source: U.S. Census Bureau, *U.S. Census of Population, Housing, and Income*, 1990, Table H-1.

CORRECTORS		DRIFT δ	ΔT	H.O.F.S. (sec)		DRIFT (μV/Sec)			TIME
INSTR.	TYPE	WIND	WAVE	ΔC	ΔC	A	B	C	
W. 2000	10	2.0	0.10	4.0	4.0	10	40	40	0.000
W. 2000	10	2.0	0.10	4.0	4.0	41.4	40	40	0.010
W. 2000	10	2.0	0.10	4.0	4.0	41.0	40	40	0.000
W. 100	10	1.5	0.05	3.0	3.0	30	30.1	40	0.000
W. 100	10	2.0	0.10	4.0	4.0	38	38.1	40	0.000
W. 100	10	2.5	0.12	2	2	30	30.1	40	0.000
W. 100	W.	1.5	0.05	3.0	3.0	30	30.1	40	0.000
W. 100	R.	2.5	0.12	2	2	30	30.2	40	0.000
W. 100	10	1.0	0.03	1.0	1.0	20	20.1	40	0.000
W. 100	10	1.2	0.04	4	4	17	16.1	40	0.000
W. 100	10	1.5	0.05	5.0	5.0	30	30.1	40	0.000
W. 100	10	2.0	0.10	4.0	4.0	17	16.1	40	0.000
W. 100	10	2.0	0.10	1	1	17	16.1	40	0.000
W. 100	0.14	1.0	0.03	1.0	1.0	17	16.1	40	0.000
W. 100	10	1.2	0.04	14	14	30	30.1	40	0.000
W. 100	0.10	1.5	0.05	10	10	30	30.1	40	0.000
W. 100	0.10	2.0	0.10	1	1	17	16.1	40	0.000
W. 100	10	1.0	0.03	1.0	1.0	17	16.1	40	0.000
W. 100	10	1.2	0.04	14	14	30	30.1	40	0.000
W. 100	10	1.2	0.05	10	10	17	16.1	40	0.000
W. 100	10	2.0	0.10	4.0	4.0	30	30.1	40	0.000
W. 100	10	2.5	0.12	1	1	17	16.1	40	0.000

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SERIES V3

TECHNOPOLYMER SOLENOID VALVE 3/2 WAY N.C.

Elektrovahválník 3/2-cestný N.C.



3/2 WAY N.C.		
PC-10 10mm	PC-15 15mm	PC-20 20mm
WSP	WSP	WSP
WSP	WSP	WSP
PC-10 10mm	PC-15 15mm	PC-20 20mm
PC-10 10mm	PC-15 15mm	PC-20 20mm
PC-10 10mm	PC-15 15mm	PC-20 20mm



HIGHLIGHTS

- 2/2 way direct acting N.C.
- U - 25 bar
- NSF approved
- Temperature: PN4-V770 PN50
- Type III certified seal
- Seal in PTFE food grade

PRODUCT DESCRIPTION

Solenoid valve 2/2-way normally closed direct acting especially dedicated to beverage and coffee applications. These valves are available with different connections and performance in order to meet any need of yours.

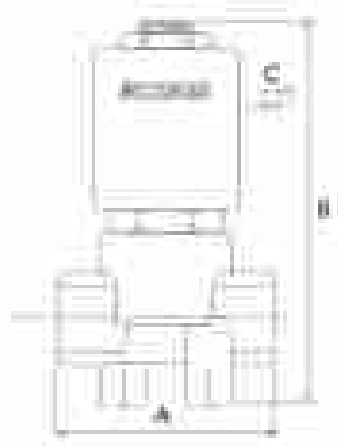
DESCRIZIONE PRODOTTO

Valvola a solenoide 2/2 vie, normalmente chiusa ad azione diretta, particolarmente indicata per utilizzo bevande e caffè. Queste valvole sono disponibili con diversi tipi di connessioni e prestazioni in modo da incontrare ogni tipo di esigenza.



GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Thermoplastics PN4-V770 PN50		
Seal material / Materiale guarnizione	PTFE food grade		
Tube material / Materiale tubi	Food grade steel		
Working fluid / Fluido di lavoro	Air, water, steam		
Electrical current / Corrente elettrica	A, 2 x 0.8 Watt or 100mA - 24V DC max.		
Weight / Peso / Massa	Max weight 25000g		
Coil voltage / Voltaggio	220VAC 50/60Hz	110VAC 50/60Hz	12-24 VDC
Coil power / Potenza elettrica	11.2 W	1.6 W	10 W
Working temp. / Temp. ambiente	80°C	90°C	100°C
Fluid temp. / Temp. fluido	140°C	140°C	140°C
Material / Materiale	316L SS / AISI	316L SS	CS 1008



TECHNICAL CHARACTERISTICS

CONNECTION	INLET Ø	IN	OUT PS (bar)		DIMENSION (mm)			CODE
			AC	DC	A	B	C	
1/4" NPT	1/4"	1/8"	10	5	30	21	40	V7110
1/2" NPT	1/2"	1/4"	15	7.5	41.4	27	45	V7120
3/4" NPT	3/4"	3/8"	15	7.5	45.8	32	45	V7130
1" FC	1.3	1/4"	20	10	58	32.3	45	V7140
1.5" FC	1.9	3/8"	18	9	58	32.3	40	V7150
2" FC	2.5	1/2"	9	5	58	32.3	40	V7160
2.5" FC	1.2	3/4"	18	9	57	32.3	40	V7170
3" FC	1.3	1/2"	15	7.5	57	32.3	40	V7180
3.5" FC	1.9	3/8"	18	9	57	32.3	40	V7190
4" FC	1.5	1/2"	15	7.5	57	32.3	40	V7200
5" FC	2.0	3/4"	15	7.5	57	32.3	40	V7210
6" FC	2.5	1/2"	9	5	57	32.3	40	V7220

SERIES V7 COFFEE

TECHNOPOLYMER SOLENOID VALVE 2/2 WAY N.C.

Electrovalvola in TecnoPolimero 2/2 vie N.C.



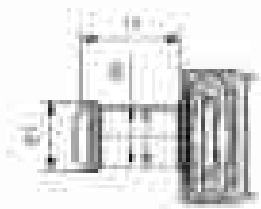
Serie V7

HYDRAULIC CONNECTION

2/2 WAY N.C.

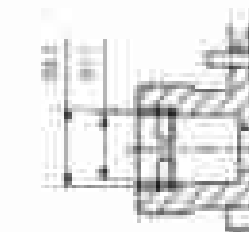
1/2" NPT

1/2" NPT



1/2" NPT

1/2" NPT





HIGHLIGHTS

- 2/2 way direct acting N.C.
- 0 - 8 bar
- NPT/UNFCS applied
- Temperature: 0°C - 120°C
- Type III certified steel
- Seal in PTFE food grade

PRODUCT DESCRIPTION

Solenoid valve 2/2 and 3/2 way normally closed direct acting especially dedicated to beverage and coffee applications. These valves are available with different configurations and performances in order to meet any need of your.

DESCRIZIONE PRODOTTO

Valvola a solenoide 2/2 e 3/2 vie, normalmente chiusa ad azionamento diretto, particolarmente indicata per utilizzo bevande e caffè. Queste valvole sono disponibili con diverse configurazioni e prestazioni in modo da soddisfare ogni tipo di esigenza.



GENERAL PURPOSE / CARATTERISTICHE GENERALI

Flow capacity / Capacità portata	Temperature: 0°C - 120°C		
Max. pressure / Max. pressione	10 bar (max. grade)		
Valve body / Materiali corpo	Type III steel		
Working fluid / Fluidi di lavoro	Water		
Rated voltage / Tensione nominale	0,1 e 0,2 bar (in acciaio) - 0,1 e 0,2 bar		
Valves size / Dimensioni valvole	From 1/8" to 1/2"		
Coil voltage / Voltaggio	24VDC/120VAC	110VDC/240VAC	115V/240VAC
Coil power / Potenza nominale	100 VA	100 W	100 W
Max. coil temp. / Temp. max. bobina	120°C	120°C	120°C
Coil temp. / Temp. bobina	120°C	120°C	120°C
Approved Certification	CE, ISO 9001, ISO 14001, ATEX	CE, ISO 9001, ISO 14001, ATEX	CE, ISO 9001, ISO 14001, ATEX

SPECIFICATIONS / CARATTERISTECHE

CONNECTION	ORIFICE Ø	ΔP	PRESSURE LOSS			COOK
		bar	A	B	C	
R 1/8"	4,0	0,10	95,8	91	84,9	1700
R 1/4"	5,0	0,10	52,8	51	44,9	1700
R 3/8"	7,0	0,10	30,8	31	24,9	1700
R 1/2"	10,0	0,10	16,8	16	14,9	1700
R 3/4"	15,0	0,10	8,8	8	8,9	1700
R 1"	20,0	0,10	4,8	4	4,9	1700
R 1 1/4"	25,0	0,10	2,8	2	2,9	1700
R 1 1/2"	30,0	0,10	1,8	1	1,9	1700
R 2"	40,0	0,10	0,8	0	0,9	1700
R 2 1/2"	50,0	0,10	0,4	0	0,4	1700

ORIFICE Ø	ΔP	G C/P B (bar)	
mm	mm	AC	DC
2,5	0,10	5	5
2,5	0,12	5	5

2/2



3/2



4/3



SERIES V3/V7 WATER

TECHNOPOLYMER SOLENOID VALVE 2/2 AND 3/2 WAY N.C.

Electrovalvola in TecnoPolimero 2/2 e 3/2 vie N.C.

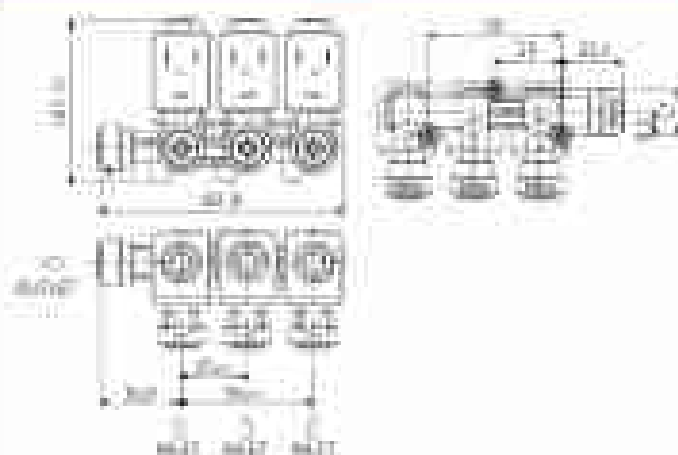
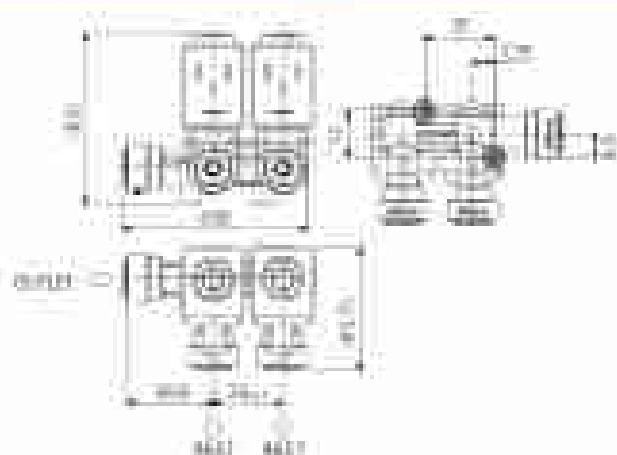


HYDRAULIC CONNECTION

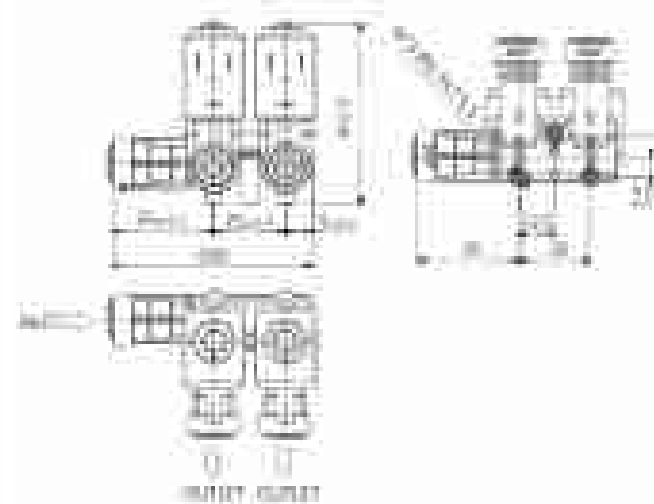
11.1 11.1

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11.1 11.1





HIGHLIGHTS

- 2/2 way direct acting N.C.
- 0 - 8 bar
- NPT/UNFCS approved
- Thermoplastic TPEE - DP 30%
- Type III certified steel
- Seal in PTFE food grade

PRODUCT DESCRIPTION

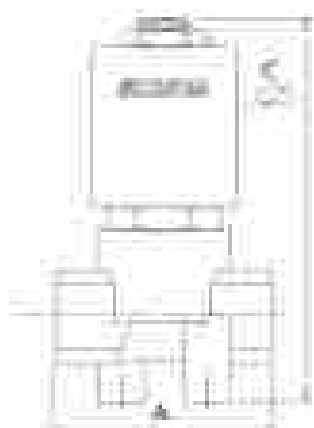
Solenoid valve 2/2, 3/2-way normally closed direct acting especially dedicated to beverage and coffee applications. These valves are available with different configurations and performance in order to meet any need of your.

DESCRIZIONE PRODOTTO

Electrovalvola 2/2, 3/2 vie normalmente chiusa ad azione diretta, particolarmente dedicata per settore bevande e caffè. Questa valvola è disponibile con diverse configurazioni e prestazioni per soddisfare ogni tipo di esigenza.

GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Thermoplastic TPEE DP 30%		
Seat material / Materiale guarnizione	PTFE food grade		
Valve Material / Materiale corpo (1)	Stainless steel		
Winding System / Tipo di bobina	None		
Electrical connection / Tipo di collegamento	5.7 x 0.81mm standard - 0.81mm (0.0315)		
Pressure class / Classe di pressione	15 bar (2.17 MPa)		
Coil voltage / Voltaggio	12V/24VAC 50/60Hz	12V/24VAC 50Hz	12V/24VDC
Coil power / Potenza bobina	11.3 W	14.7 W	10 W
Operating temp. / Temp. di esercizio	0°C	40°C	60°C
Storage temp. / Temp. di stoccaggio	0°C	40°C	60°C
Approvals / Approvazioni	VDI 2231, NSF, WRAS, AWT	NSF, WRAS, AWT	CE, NSF, WRAS, AWT



APPLICATIONS / CARATTERISTE

CONNECTIONS - 2WAYS 2		5/2 2/2 3/2		3WAYS 3/2 3/2			CODE
INLET	INLET	INLET	AC	DC	A	B	
1/4" BSP	1/4"	1/4"	9	9	40	52	0794
1/2" BSP	1/2"	1/2"	9	9	40	52	0795
3/4" BSP	3/4"	3/4"	9	9	54	52	0796
1" BSP	1"	1"	9	9	54	52	0797
1 1/4" BSP	1 1/4"	1 1/4"	9	9	68	52	0798
1 1/2" BSP	1 1/2"	1 1/2"	9	9	68	52	0799
2" BSP	2"	2"	9	9	82	52	0800
2 1/2" BSP	2 1/2"	2 1/2"	9	9	96	52	0801
3" BSP	3"	3"	9	9	110	52	0802
3 1/2" BSP	3 1/2"	3 1/2"	9	9	124	52	0803
4" BSP	4"	4"	9	9	138	52	0804
4 1/2" BSP	4 1/2"	4 1/2"	9	9	152	52	0805
5" BSP	5"	5"	9	9	166	52	0806
5 1/2" BSP	5 1/2"	5 1/2"	9	9	180	52	0807
6" BSP	6"	6"	9	9	194	52	0808
6 1/2" BSP	6 1/2"	6 1/2"	9	9	208	52	0809
7" BSP	7"	7"	9	9	222	52	0810
7 1/2" BSP	7 1/2"	7 1/2"	9	9	236	52	0811
8" BSP	8"	8"	9	9	250	52	0812


HIGHLIGHTS

- Direct Acting
- Total media separation
- Food grade approved

PRODUCT DESCRIPTION

The new CETME Dispensing Valve is a 1/2 inch NPT direct acting valve with total media separation to diaphragm. This valve is normally closed with a tapered diaphragm at 10 mm. CETME Dispensing Valve is mainly designed for dispense media, or media media from a large capacity tank. It is excellent meant to control both air/liquid dispense and it is suitable for hot/cold water. Many applications are suitable for food, including dairy, juice and beverage dispensing.

DESCRIZIONE PRODOTTO

La nuova Dispensing Valve di CETME è una 1/2" in di azione diretta diretta con separazione totale del fluido attraverso la membrana. Questa valvola è normalmente chiusa con un diaframma conico di 10 mm. Questa Dispensing Valve è progettata per erogare principalmente acqua, o fluidi caldi, da un serbatoio pressurizzato per esempio. È pensata per essere con un serbatoio di capacità elevata e con un grande volume di acqua. È adatta per applicazioni per acqua calda, acqua fredda, latte, bibite, succhi, bevande, ecc. È adatta anche per applicazioni per acqua calda e fredda, latte, succhi, bevande, ecc.


GENERAL FEATURES / CARATTERISTICHE GENERALI

Direct acting / Azione diretta
Normally closed / Normalmente chiusa
Total media separation by diaphragm / Separazione totale del fluido mezzo membrana
Long life material / Materiale di alta qualità
Suitable for food as well as hot water systems / Adatta per alimenti e acqua calda
Working without pressure / non richiede pressione di funzionamento
1/2 inch NPT inlet / 1/2 inch NPT outlet / 1/2 inch NPT outlet
100% tested with water and air / collaudata all'aria e all'acqua

APPLICATIONS / APPLICAZIONI

Coffee maker / macchina per caffè
Tea / tè
Hot / cold water dispenser / dispenser acqua calda e fredda
Industrial machine / macchina industriale
Food / beverage / acqua / latte / succhi / bevande
Hot / cold water / acqua calda e fredda
Hot / cold water / acqua calda e fredda

MATERIALS / MATERIALI

Body material / Materiale corpo: PPSU
Seat / Sella: PTFE
Material approval / Approvazione materiale: FDA, NSF, ISO 9001, CE, RoHS

TECHNICAL CHARACTERISTICS / CARATTERISTICHE TECNICHE

Working pressure / Pressione di lavoro	0 - 0.7 bar (0 - 10 PSI)
Orifice / Orifizio	1/2 inch NPT
Pressure rating / Pressione di progetto	According to EN10732 / secondo EN10732
Flow direction / Direzione del flusso	Unidirectional / Unidirezionale
Flow position / Posizione del flusso	Vertical / Verticale
Working fluid / Fluido di lavoro	Hot water - Hot water, Cold water - Cold water, Air - Air, Gas - Gas, Oil - Oil, etc.
Working fluid / Fluido di lavoro	Hot water - Hot water, Cold water - Cold water, Air - Air, Gas - Gas, Oil - Oil, etc.
Fluid Temp. / Temperatura fluido	0° - 200° F (0° - 100° C)
Working Temp. / Temperatura ambiente	0° - 200° F (0° - 100° C)

OVERALL DIMENSION


SERIES 22 PINCH VALVES Electrohydraulic Pinch



Series 22

HIGHLIGHTS

- 200 way NC, 200 way NC / 200 way NC
- Mounting flange is 360° rotatable



PRODUCT DESCRIPTION

The pinch valve is designed to pinch fluid within tube 20-30 mm diam. It is used when the fluid doesn't flow in with the internal parts of the valve except the tube. Its suitable to transport a great variety of fluid without causing turbulence. The tube can be easily replaced and the cost is quite low.

DESCRIZIONE PRODOTTO

La valvola a pinza è progettata per bloccare con alta precisione la sezione di fluido pinza. Questa tipo di valvola viene utilizzata quando il fluido non deve andare in contatto con le parti interne della valvola. È adatta ad essere installata su grande varietà di fluidi senza creare turbolenze. Il tubo può essere facilmente sostituito e la sua spesa è molto bassa (costo di 200€).



200 WAY NC												
		Body mm	Tube		Maximum wall Thickness	Clamping Force N	Pressure Rating Bar	Coil Power W	ORIFICE (mm)			CODE
			A (In)	B (In)					A	B	C	
		Ø 25	3	4	1	100	1	16	14	50	40	1000
		Ø 25	4	4	1	100	1	16	14	50	40	1001

200 WAY NC											
	Body mm	Tube		Maximum wall Thickness	Clamping Force kgf	Pressure Rating bar	Coil Power W	ORIFICE (mm)			CODE
		Ø In / Ø Out						A	B	C	
		Ø 25	3	4	1	1	100	14	14	40	1000
		Ø 25	4	4	1	1	100	14	14	40	1001

* For groups with 200 way NC, the coil must be made in special version

200 WAY											
	Body mm	Tube	Maximum wall Thickness	Clamping Force N	Pressure Rating (Bar)	Coil Power (W)	ORIFICE (mm)			CODE	
							A	B	C		
		Ø 25	3	4	1	100	14	14	40	1000	
		Ø 25	4	4	1	100	14	14	40	1001	

GENERAL FEATURES / CARATTERISTICHE GENERALI

Body Body material / Materiale corpo valvola	Steel / Acciaio
Clamping Force / Forza di serraggio	100N
Flange Ø In / Ø Out	Ø 25
Flange and wiring / Flange e cablaggio	Standard 3mm
Working fluid / Fluido di lavoro	Oil
Tube and jacket / Tubo e giacca	Customized 1mm
Electrical connection / Collegamento elettrico	5-24VDC (max. 100mA) / 24VDC (max. 100mA)
Coil power / Potenza bobina	10-24VDC
Coil power / Potenza bobina	10W
Working temp. / Temperatura operativa	0°C
Fluid temp. / Temperatura del fluido	120°C
Approach / Identificatori	ISO

SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C. Elettrovalvola azione diretta 2/2 vie N.C.



HIGHLIGHTS

- 2/2 way direct acting N.C.
- $P = 17 \text{ bar}$
- Connections: G1/2"
- Compact design
- Body: IPDM

PRODUCT DESCRIPTION

Solenoid valve direct acting 2/2 way, normally closed, very compact design, available with different ports connections and thread options. The series of valves are especially indicated for clean applications, such as food items and pharmaceuticals.

DESCRIZIONE PRODOTTO

Elettrovalvola ad azione diretta di 2/2 vie, normalmente chiusa. Design estremamente compatto. Disponibile con diverse alternative di collegamento. Questa serie di valvole è particolarmente indicata per applicazioni con liquori, quali sono a liquori e gas ed alimenti generatore di liquori.



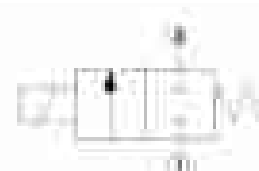
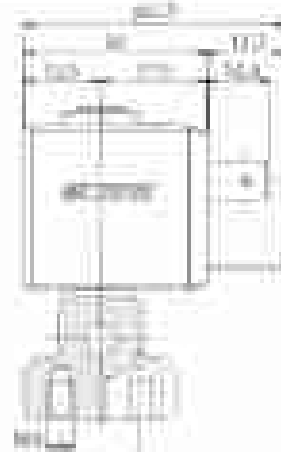
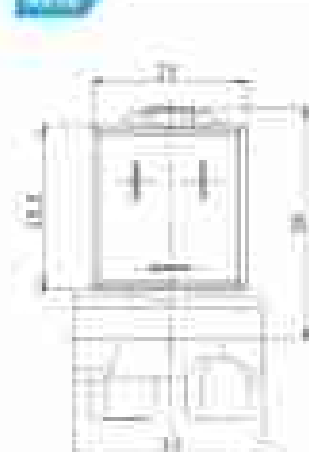
GENERAL FEATURES / CARATTERISTICHE GENERALI

Body Material / Materiale corpo	Brass	
Seat material / Materiale sede	IPDM	
Temp. °C	150°C	
Seat material / Materiale sede	Brass	
Working fluid / fluido di lavoro	Air, water, steam	
Rated current / corrente nominale	5.2 A for 230VAC, 10A for 115VAC-230V	
Pressure (bar) / Press. (bar)	17 according to EN 10736	
Coil voltage / Voltaggio	230 V (50/60 Hz)	115 V (50/60 Hz)
Coil power / Potenza bobina	15.5 W	15.5 W
Mounting / modo di montaggio	80°	80°
Body size / Dimensioni	150°C	150°C
Approach / Connessione	1/2" G	1/2" G

PERFORMANCE / CARATTERISTICHE

CONNECTION	ORIFICE	KV	17.0 bar		DIMENSIONS mm			CODE
			40	110	A	B	C	
1/4" - G1/4"	15	0.005	17	8	31	31	42	4410
1/2" - G1/2"	1.0	0.050	43	1	56	56.3	42	4411
1/2" - G1/2"	1.0	0.050	43	1	56	42	42	4423
1/2" - G1/2"	1.0	0.050	43	1	56	56	42	4425

TECHNICAL DATA



SERIES 44
SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C.
 Elettrovalvola azione diretta 2/2 vie N.C.



44 1/2" 100mm CETME	
44 1/2" 100mm N.C.	44 1/2" 100mm
44 3/4" 150mm	44 3/4" 150mm

SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C. (5201 N.O.V.)

Electrowhale azione diretta 2/2 me N.C. (520) N.A.



- [illegible]

RESEARCH DESIGN

The train can be also understood in order to make arbitrary realizations. It is assumed to contain multiple, compatible, yet different tracks, and hence each

DEFINITION 4.3.0.10.

Il cliente può essere anche visitato per farsi impressione migliore
 E' questo il vero obiettivo. Conoscendo un po' di più il cliente, si può essere più efficaci nel convincerlo.

WWW.EJOURNAL-CREATION.COM

[illegible]

DECLARATION OF INTEREST

	CONNECTION	WAPACI Pressure	4V m/s	54-0-23-0-0-0		22-0-0-23-0-0-0			CdM
				4V	24"	4	8	12	
VAC	0-100	1.1	0.000	10	10	10	40	40	0.000
	0-100	1.1	0.005	20	10	10	40	40	0.005
	0-100	2.0	0.100	10	10	10	40	40	0.100
	0-100	2.4	0.100	10	10	10	40	40	0.100
	0-100	1.1	0.000	20.0	10.0	10.0	40	40	0.000
	0-100	1.1	0.007	17.0	10.0	10.0	40	40	0.007
	0-100	2.0	0.100	10.0	10	10.0	40	40	0.100
VAC	0-100	2.4	0.10	10	10	10	40	40	0.10
	0-100	1.1	0.000	10	10	10	40	40	0.000



HYDRAULIC CONNECTION

3-2 WAY M.C.			3-2 WAY M.C.	
W/OUT STOP			W/OUT STOP	

Source: Federal Reserve Bank of St. Louis. <http://www.frbstlouis.org/outgoing/indicators/indicators.htm>.

- [10] <http://www.fishbase.org>

SERIES 53

SOLENOID VALVE DIRECT ACTING 3/2 WAY N.C.

Elettrovalvola azione diretta 3/2 vie N.C.

CETME

Series 53

HIGHLIGHTS

- 3/2 way Direct Acting N.C.
- 0 - 10 bar
- 12 L/min
- Body casting steel or Stainless Steel
- Solenoid coils 115V - 230VAC - 230V - 400V
- Ports: 1/4" BSP - 1/2" - 3/8" - 1/2" - 3/4" - 1" - 1 1/2" - 2" - 3"

PRODUCT DESCRIPTION

Solenoid valve 3/2 way, normally closed.

The body valve is made of steel as well as the cast body with the exception of the 230V and 230V where the body is made of stainless steel. This valve is particularly suitable for steam up to 140°C in addition to the standard version (normally closed valve from port 2). The valve can also be used as double-throw from port 1 if required. Special versions with direct-acting valve body are also available.

DESCRIZIONE PRODOTTO

Elettrovalvola 3/2 vie, normalmente chiusa.

Il corpo della valvola è in acciaio, con l'eccezione delle versioni 230V e 230V che sono in acciaio inossidabile. Questa valvola è particolarmente adatta per vapore fino a 140°C. Oltre alla versione standard (normalmente chiusa dalla porta 2), la valvola può essere utilizzata anche a doppio tiro dalla porta 1 se richiesto. Sono disponibili anche versioni speciali con corpo a valvola diretta.

La valvola può essere utilizzata anche come valvola a doppio tiro dalla porta 1 se richiesto.

Sono inoltre disponibili versioni speciali con corpo a valvola diretta.



GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Steel / Acciaio		
Body material / Materiale corpo	115V	230V	400V
Temp. °C (115V/230V/400V)	140°	150°	150°
Body material / Materiale corpo	Stainless steel version / Versione acciaio inossidabile		
Working time / Tempo di lavoro	As order / A richiesta		
Electrical symbol / Simbolo elettrico	N.C. (Normally Closed) / N.C. (Normalmente Chiusa)		
Installation / Installazione	According to EN 17520 / Secondo EN 17520		
Coil voltage / Tensione	115VAC / 115VAC	230VAC / 230VAC	400VAC
Coil power / Potenza elettrica	10W	10W	10W
Rated force / Forza nominale	10N	10N	10N
Rated temp. / Temp. nominale	140°C	150°C	150°C
Body size / Dimensioni corpo	100, 110	110, 120	120, 130
Approach / Approccio	100, 110	110, 120	120, 130

APPLICATIONS / APPLICAZIONI

SPECS		VARIANTE	VARIANTE	SPECS		SPECS		SPECS		COST
Model	Port			PC	DC	A	B	C	D	
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100
53-10	1/2"	1.1	0.080	11	11	20	20	40	40	1.100

* 1/2" and 1/4" port, 1.1

HYDRAULIC CONNECTION

1-2 WAY N.C.		
PORT 1	PORT 2	PORT 3
1/2"	1/2"	1/2"
1/2"	1/2"	1/2"
1/2"	1/2"	1/2"



SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C. Elettrovalvola azione diretta 2/2 vie N.C.



HIGHLIGHTS

- 2/2 way direct acting N.C.
- 0.1-13 bar
- Suitable for inflammable Gas
- Body made out of Stainless Steel
- Seal/Tyreless: 100% - EPDM - TFM - NBR
- Fluid: Water, Air - Steam - inflammable Gas - inert Gas

PRODUCT DESCRIPTION

Isolated valve 00 way, normally closed. The body valve is made in brass as well as the cover plate, the valve is not adjustable. This valve is particularly suitable for manipulation of inflammable Gas, besides many other fluids. Some models are particularly indicated for drinking industry (2032-2034-2040-2041-2042-2044-2045-2046). The operating pressure with the coil downwards is not adjustable. Certain models have been approved for the cooking industry (2032C-2042C-2042C) (EN 10319) (Gas Appliance and their components) and comply to the requirements of most of the following standards: EN 10319, EN 10320, EN 10321, EN 10322, EN 10323, EN 10324, EN 10325, EN 10326.

DESCRIZIONE PRODOTTO

Valvola isolata 00 vie, normalmente chiusa. Il corpo valvola è in ottone, la piastrina superiore è in acciaio. La valvola non è regolabile. Questa valvola è particolarmente adatta per l'azionamento di gas infiammabili, oltre a molti altri fluidi. Alcuni modelli sono particolarmente indicati per l'industria delle bevande (2032-2034-2040-2041-2042-2044-2045-2046). La pressione di esercizio con la bobina verso il basso non è regolabile. Alcuni modelli sono stati approvati per l'uso nell'industria alimentare (2032C-2042C-2042C) (EN 10319) (Apparecchi a gas e loro componenti) e sono conformi a molti di standard di base di apparecchiature (EN 10319, EN 10320, EN 10321, EN 10322, EN 10323, EN 10324, EN 10325, EN 10326).

GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Size		
Body material / Materiale corpo	1/2"	3/8"	1/4"
Temp. °C	140°	20°	140°
Actuator material / Materiale bobina	Brass		
Actuator material / Materiale bobina	All water, steam, inflammable Gas, inert Gas		
Actuator material / Materiale bobina	A.T.O. Certification: UNI EN 10319		
Actuator material / Materiale bobina	It is approved to EN 10319		
Actuator material / Materiale bobina	10-150°C	10-150°C	10-150°C
Actuator material / Materiale bobina	10-150°C	10-150°C	10-150°C
Actuator material / Materiale bobina	10-150°C	10-150°C	10-150°C
Actuator material / Materiale bobina	10-150°C	10-150°C	10-150°C



SPECIFICATIONS / CARATTERISTICHE

CONNECTION	ORIF. Ø (mm)	PV MPa	W L (mm)	H (mm)	W L (mm)	H (mm)	W L (mm)	H (mm)	W L (mm)	H (mm)
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
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1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
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3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"	6.3	0.005	12.7	8	11	48	40	103	103	103
1/2"	12.7	0.005	12.7	8	11	48	40	103	103	103
3/8"	9.5	0.005	12.7	8	11	48	40	103	103	103
1/4"										

SERIE 55
SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C.
Elettrovalvola azione diretta 2/2 vie N.C.



VALVE SUPPLIED WITH

- Non returnable, non-pneumatic air pilot, to avoid particle introduction in the valve
 (5512-5514-5540-5541-5545-5546-5549)
- Not and pilot, to mount the valve directly under a manifold or a machine (5542-5543) for welding industry
 (5544-5546-5515-5516-5541-5544)
- **Warning:** after each of machine (machine) use, the general features of page no. 15, the valve of series 55 suitable for operation of compressed gas, unless further measures submitted for the safety required from the manufacturer use VM 2M-type apparatus and their components
 (5515-5517-5512-5540-5543) and comply with the requirements of class 3 valves according to EN 101

VALVOLA FORMITA' CON

- After installation in liquid: non-pneumatic air pilot, to avoid introduction of particles in the valve
 (5512-5540-5541-5545-5546-5549-5544)
- Con il pneumatico di innescio della valvola direttamente sulla macchina o sul manifold
 (5542-5543) per industria saldatura (5544-5546-5515-5516-5541-5544-5549)
- **Avvertenza:** dopo ogni utilizzo di macchina di gas infiammabili, sono a tutti gli effetti necessari sulle caratteristiche generali pag. 15, oltre a tutti i dati relativi all'uso di pneumatico della valvola diretta con AIR200 (pneumatico a pilotaggio) e i loro componenti
 (5515-5517-5512-5540-5543) e sono conformi ai requisiti della classe 3 secondo EN 101



HYDRAULIC CONNECTION						
2/2 WAY N.C.						
INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2
INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2
INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2	INOUT 1/2 - 1/2		



HIGHLIGHTS

- 2/2 way direct acting R/C
- 0 - 28 bar
- Refrigeration and Air Conditioning
- Very compact design
- 3000 hours PTFE-1000 hours (optional)
- ED 100%

PRODUCT DESCRIPTION

Solenoid valve 2/2 way, normally closed, designed for refrigeration applications. The extremely compact size together with the high performance make this series 59 valve an ideal compact choice, available with different Kv factors, and different connections, reducing the pressure loss double and even triple when allowing reduction of cost and installation time.

DESCRIZIONE PRODOTTO

Valvola solenoide 2/2 vie, normalmente chiusa, progettata per applicazioni frigorifere. La ridottissima ingombrazione unitamente ad alto rendimento fanno della serie 59 un'ottima scelta per un impianto climatizzatorio, refrigerazione, aria condizionata. Disponibile con diverse portate Kv, diverse configurazioni di connessione, riducendo la perdita di carico anche fino a tre volte, e consentendo di ridurre i costi di acquisto e di installazione.

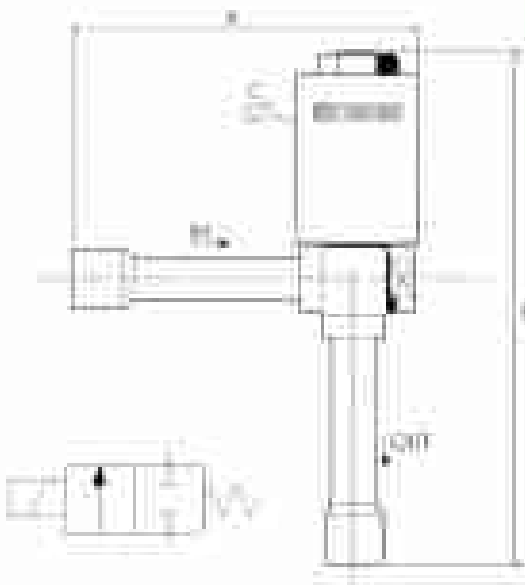


GENERAL FEATURES / CARATTERISTICHE GENERALI

Seat material / Materiale sedile	R/C			NOMEX		
Temp. °C	-45 / +125			-22 / +100		
Substance / Sostanza gestita	R/C					
Working fluid / Fluid di lavoro	All types of refrigerant fluid (except ammonia R717)					
External thread / Unione esterna	G1/2" x 1/8" (10mm) - 1/2" x 1/8" (10mm)					
External seal / Guarnizione esterna	PTFE according to EN 10132					
Coil voltage / Voltaggio	220V-50/60 Hz		110V-50/60 Hz		110V-50/60 Hz	
Coil power / Potenza bobina	11.7 W		14 W		11 W	
Response time / Tempo di reazione	100 ms		100 ms		100 ms	
Approvals / Approvazioni	EN 10132		EN 10132		EN 10132	

SPECIFICATIONS / CARATTERISTICHE

Connection	DNK15 ø 15.414	KV mm	MULTI PASS		1/2 WAY (10mm)			1/2" (10mm)
			AC	IBC	4	3	2	
OCF 1 bar	1.5	0.180	25	15	280	60	40	1000
OCF 1.4	1.5	0.180	18	8	140	40	40	1000
OCF 1.6 bar	1.5	0.180	25	15	15	30.5	40	1000
OCF 1.8 bar	1.5	0.175	25	8	15	30.5	40	1000
OCF 2 bar	1.5	0.180	25	15	110	110	40	1000
OCF 2.5 bar	1.5	0.175	25	15	110	110	40	1000



HYDRAULIC CONNECTION

1/2 WAY (10mm)			
INLET COIL	INLET COIL	INLET COIL	INLET COIL

SERIES 61

SOLENOID VALVE 3/2 WAY N.O.

Elettrovalvola 3/2 vie N.O.

CETME

Series 61

HIGHLIGHTS

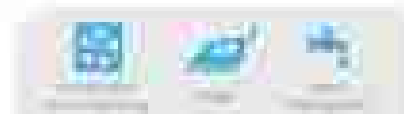
- 3/2 way direct acting normally open (N.O.)
- D = 15 mm
- Servicable valve if valve assemblyable
- Seal material: NBR - EPDM - PTFE
- ED 100%
- Easy ports

PRODUCT DESCRIPTION

Solenoid valve 3/2 way, normally open. The body valve is made in brass as well as the coil tube. The valve is primed in order to allow ordinary maintenance. Two long ports on the body simplify the installation. Suitable for many different fluids. Easy servicable valve useful for many different applications.

DESCRIZIONE PRODOTTO

Elettrovalvola 3/2 vie, normalmente aperta. Il corpo valvola è composto integralmente con l'innesto in ottone. La valvola è primata per consentire la manutenzione ordinaria. Due porte di troppo sul corpo facilitano l'installazione della valvola. Compatibile con molti fluidi diversi. Facile nella manutenzione, utile per molte applicazioni differenti.



GENERAL FEATURES / CARATTERISTICHE GENERALI

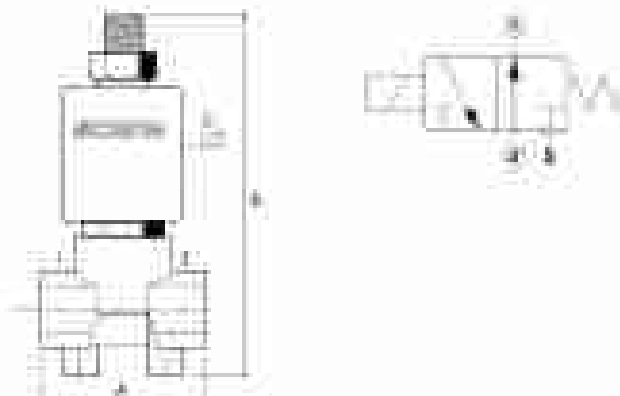
Body Material / Materiale corpo	Brass		
Coil Material / Materiale bobina	THW	SAK	HH
Temp. °C	102°	67°	150°
Seal Material / Materiale tenuta	NBR		
Working Fluid / Fluid di lavoro	Air, Water, Oil, Gas, Light Oil		
Maximal Pressure / Press. max.	8.5 bar (124 psi) at 40°C / 85 PSI (400°C)		
Viscosity class / Classe di viscosità	17-150 cSt @ 40°C		
Coil voltage / Voltaggio	12V DC / 10 VA	24V DC / 10 VA	110V AC
Coil power / Potenza bobina	17 VA	24 VA	10 W
Maximal Temp. / Temp. max.	102°C	67°C	150°C
Body Temp. / Temp. Body	102°C	67°C	150°C
Approach / Approccio	90° / 45°	90°	45°

SPECIFICATIONS / CARATTERISTICHE

CONNECTION		DN (mm)	4V, 20 mm	1/2" NPT, 1/2"		3/8" NPT, 1/2"			Coil
4V, 20 mm	1/2" NPT, 1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	Coil
1/2"	1/2"	1.5	0.002	10	10	25	47	47	4000
1/2"	1/2"	2.5	0.150	10	10	25	47	47	4000
1/2"	1/2"	3.5	0.002	10	10	25	47	47	4000
1/2"	1/2"	2.5	0.120	10	10	25	47	47	4000
1/2"	1/2"	2.5	0.210	10	10	25	47	47	4000
1/2"	1/2"	2.5	0.240	10	10	25	47	47	4000
1/2"	1/2"	2.5	0.120	10	10	25	47	47	4000

* See page 10 for Form 12

AUTOMATIC CONNECTION		
3/2 WAY N.O.		
1/2" NPT, 1/2"	1/2" NPT, 1/2"	1/2" NPT, 1/2"





HIGHLIGHTS

- 3/2 way direct acting normally Closed (NC)
- 0 - 15 bar
- Service life: 100,000 cycles
- Seal material: NBR - EPDM - PTFE - PU
- Coil type: 1 or 2 poles
- Seal pack is pre-assembled
- ISO 5212

PRODUCT DESCRIPTION

3/2 way direct acting solenoid valve. The body is made of brass or stainless steel. The solenoid is electrically actuated. The 3/2 way valve is provided with 100% seal, specially designed to high performance - offset leakage. Available with 100% seal - 100% seal - 100% seal. The body is also available with metal plate treatment. In addition to the standard version, normally closed with pilot from port 2, the valve can also be used as a double function from port 1 or universal. It is suitable for various different fluids: Water, Air, Steam, Gas, Light Oil, Diesel Oil.

DESCRIZIONE PRODOTTO

3/2 vie elettrovalvola azione diretta. Il corpo è in ottone o acciaio inossidabile. L'avvolgimento è elettrico. La 3/2 vie è fornita con 100% di tenuta, progettata per alte prestazioni - offset di perdita. Disponibile con 100% di tenuta - 100% di tenuta - 100% di tenuta. Il corpo è anche disponibile con trattamento a platea metallica. In aggiunta alla versione standard, normalmente chiusa con pilotaggio dalla porta 2, la valvola può essere utilizzata anche come doppia funzione dalla porta 1 o universale. È adatta per vari fluidi diversi: acqua, aria, vapore, gas, olio leggero, olio diesel.



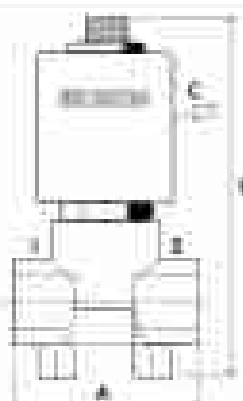
GENERAL FEATURES / CARATTERISTICHE GENERALI

	Size			
Line material / Materialo di linea	1/2" NPT	3/4" NPT	1" NPT	1 1/2" NPT
Temp. °C	140°	140°	90°	150°
Seal material / Materialo di tenuta	NBR / PU / EPDM / PTFE			
Working pressure / Pressione di lavoro	15 bar / 150 psi			
Maximal service / Tempo di servizio	100,000 cycles			
Seal pack / Cassetto di tenuta	Pre-assembled			
Coil voltage / Tensione bobina	115V AC	115V AC	115V AC	115V AC
Coil power / Potenza bobina	11W	11W	11W	11W
Seal material / Materialo di tenuta	NBR	EPDM	PTFE	PU
Body material / Materiale corpo	Brass	Stainless Steel	Stainless Steel	Stainless Steel
Seal material / Materialo di tenuta	NBR	EPDM	PTFE	PU

SPECIFICATIONS / CARATTERISTICHE

CONNECTION		1/2" NPT	3/4" NPT	1" NPT	1 1/2" NPT	2" NPT	3" NPT	4" NPT	6" NPT	8" NPT
1/2" NPT	3/4" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
3/4" NPT	1" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
1" NPT	1 1/2" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
1 1/2" NPT	2" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
2" NPT	3" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
3" NPT	4" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
4" NPT	6" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
6" NPT	8" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
8" NPT	10" NPT	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3

Standard



HYDRAULIC CONNECTION

3/2 WAY N.C.		
1/2" NPT	3/4" NPT	1" NPT

SERIES 65

SOLENOID VALVE DIRECT ACTING 2/2 WAY N.O.

Elettrovalvola azione diretta 2/2 vie N.A.

CETME

Series 65

HIGHLIGHTS

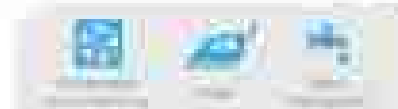
- 2/2 Way Direct Acting Normally Open (N.O.)
- 3 - 25 bar
- Servicable Valve / Valvola ispezionabile
- Seal/Sealing: NBR - EPDM - FKM
- Coil/Volte in Stainless Steel
- Steel body in stainless steel
- ED 100%
- 3 pole connector PPS included (100-500-400-DIN-40504)

PRODUCT DESCRIPTION

2/2 Way Direct Acting valve. The body and coil are made in stainless steel and seal is in elastomer. The coil tube is also made in stainless steel. The valve is servicable, the coil tube can be removed and the valve is reusable, allowing the end user maintenance. It is suitable for various different fluids: Water, Air, Oils, Light Oils, Greases, also supplied with three pole connector PPS - 100-500-400-DIN-40504.

DESCRIZIONE PRODOTTO

Valvola 2/2 vie, normalmente aperta. Il corpo e bobina sono in acciaio inossidabile. La tuba di bobina è in inox, anche il tubo di bobina è in acciaio inossidabile. Il valvola è servizabile e il bobina può essere rimossa e la valvola può essere riutilizzata, permettendo l'assistenza all'utente finale della valvola. È adatta per vari fluidi: acqua, oli, oli leggeri, grassi, anche fornita con connettore a 3 poli PPS - 100-500-400-DIN-40504.



GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	3 bar		
Coil material / Materiale bobina	100%	50%	40%
Temp. °C	120°	80°	110°
Seal material / Materiale sigillante	Elastomer Seal		
Working fluid / Fluid di lavoro	Air, water, oil, light oil, Grease etc.		
Flaming current / Corrente di accensione	0.2 x VA coil nominal - 100-500-400		
Insulation class / Classe d'isolamento	II according to EN 60730		
Coil voltage / Voltaggio	100-240V~ 50/60	100-240V~ 40/50	110-220V~ 50/60
Coil power / Potenza bobina	17W	23W	16W
Relay time / Tempo ritardo	100%	80%	80%
Fluid temp. / Temp. fluido	120°C	80°C	110°C
Material / Materiale	304 SS	316	316

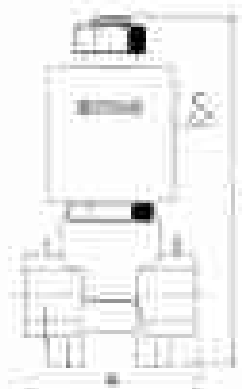
SPECIFICATIONS / CARATTERISTICO

CONNECTION	DRILL Ø/mm	Ø3 mm	V.O.P. mm		THREADING mm			CODE
			AC	DC	A	B	C	
R 1/8" - G 1/8" - G 1/8"	11.8	3.175	25	25	11	13.2	47	8010
R 1/4" - G 1/4" - G 1/4"	17.5	3.175	35	35	17	17.3	47	8015
G 1/2"	21.5	3.300	40	40	20	20	47	8011
G 3/4"	27.5	3.375	50	50	27	27	47	8011
G 1"	33.5	3.500	55	55	33	33	47	8011
G 1 1/4"	41.5	3.500	65	65	41	41	47	8011
G 1 1/2"	47.5	3.500	75	75	47	47	47	8011
G 2"	53.5	3.650	85	85	53	53	47	8011
FLANGE	53	3.650	22	17	22	47	47	8020
FLANGE	53	3.125	25	10	22	47	47	8010
FLANGE	53	3.125	25	7	22	47	47	8015

HYDRAULIC CONNECTION

2/2 WAY N.O.

Symbol 2/2 N.O.	Symbol 2/2 N.O.	Symbol 2/2 N.O.	Flange 2/2 N.O.
100-500-400	100-500-400	100-500-400	100-500-400

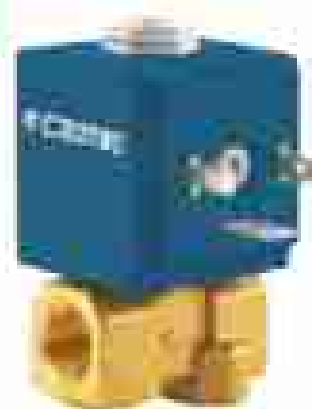


SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C.

Elettrovalvola a solenoide diretta 3/2 mm A/C

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- 2/2 very slight aching N.E.
- U - 29 bar
- CE Eos with culture for inflammatory Cdx
- High serum ferritin
- Urinary Malaria
- Sw - 100 CPT - 100



PRODUCT DESCRIPTION

Isolated virus III was normally found. The values of isolates are suitable for calculation of a mean $\pm$ SD per. Certain results have been subtracted by the typing obtained from the CDC, division of the WHO for similar appearance and then compared and finally by the registration of this 2 values according to the first set and the second set of results was calculated these values. We have some results with mean $\pm$ SD (mean $\pm$ SD) and mean $\pm$ SD (mean $\pm$ SD).

The paper includes all the words that are under the word "offer" in the text.

DECEMBER 2000

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Alcune società sono state coinvolte per il loro settore. Ad esempio, CTE, BULLAC, DLR

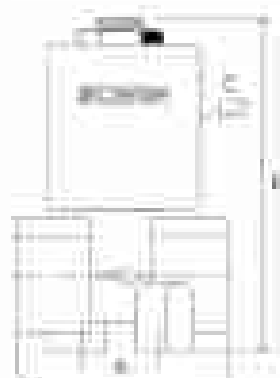
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A representative of the National Institutes of Health (NIH) also gave a presentation on the use of the NIH.

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Base material / Material type	Steel		
Sub material / Substrate / Backing	EN604	HAZ	HAZ
Temp. °C	120°	100°	120°
Base material / AA metal / substrate	Alu.		
Backing / Back / Root of joint	40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300, 320, 340, 360, 380, 400, 420, 440, 460, 480, 500, 520, 540, 560, 580, 600, 620, 640, 660, 680, 700, 720, 740, 760, 780, 800, 820, 840, 860, 880, 900, 920, 940, 960, 980, 1000		
Backfill / Backfill / Backfill material	40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300, 320, 340, 360, 380, 400, 420, 440, 460, 480, 500, 520, 540, 560, 580, 600, 620, 640, 660, 680, 700, 720, 740, 760, 780, 800, 820, 840, 860, 880, 900, 920, 940, 960, 980, 1000		
Pressure / Pressure / Pressure of material	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100		
Cell voltage / Voltage	200-250VAC 50/60Hz	100-150VAC 50/60Hz	10-24VDC
Component / Material / Material	17.5%	24.5%	15.5%
Backfill / Backfill / Backfill material	100 °C	100 °C	100 °C
Backfill / Backfill / Backfill material	100 °C	100 °C	100 °C
Backfill / Backfill / Backfill material	100 °C	100 °C	100 °C
Backfill / Backfill / Backfill material	100 °C	100 °C	100 °C

References

CONNECTION	CHARGE P (msec)	KV, with	LEADS, sec		DRAINING, sec			CODE
			AC	DC	A	B	C	
CH1 - 0.10 (1000)	4.0	0.200	4	4	22.5	61	47	0001
0.10 (100)	4.0	0.200	4	4	35	62.5	47	0004
0.10 (50)	4.0	0.200	4	4	35	63	47	0007
0.10 (20)	4.0	0.200	4	4	40	70	47	0008
0.10 (10)	4.0	0.200	4	4	46	70	47	0009
0.10	3.0	0.175	4	3	35	61	47	0004
0.10	2.0	0.080	20	12	30	61	47	0010
0.10	1.0	0.175	4	3	35	61	47	0011
0.10	4.0	0.200	4	4	35	63	47	0014
0.10	1.0	0.080	20	12	35	61	47	0015
0.10	3.0	0.175	4	3	35	63	47	0017
0.10	1.0	0.080	20	12	35	61	47	0018
0.10	3.0	0.175	4	3	35	63	47	0019
0.10	4.0	0.200	4	4	40	70	47	0021
0.10	4.0	0.200	4	4	40	70	47	0024
0.10 - 100	2.0	0.080	20	12	35	58	47	0025
0.10 - 100	2.0	0.155	20	13	46	58	47	0026
0.10 - 100	2.0	0.080	20	12	44	58	47	0028
0.10 - 100	2.0	0.080	20	12	44	58	47	0030
0.10	CT - 7.0	0.100	10	7	30	62.5	47	0032
0.10	1.0	0.100	4	4	37	63.5	47	0033

DOI: 10.1002/for

For a full and complete listing of products and services, please contact:

The model takes all $\text{sum} = \text{sum} + \text{sum} \cdot \text{sum}$ to get 3 different sum values: $\text{sum} = 0$, $\text{sum} = 1$, $\text{sum} = 2$. This is because $\text{sum} = 0$ is not in sum .

Received 10 June 2003; accepted 10 June 2003; first published online 10 June 2003

SERIES 66
SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C.
 Elettrovalvola azione diretta 2/2 vie N.C.



VALVE SUPPLIED WITH

 Besides all other kind of material provided with in the present catalogue of page no. 23, the series of valves are supplied for installation of inflammable gas, certain models have been authorized for the filling required from the inc. directive 90/269/CEE (gas apparatus and their components) (EN 10344 (10-84)) (EN 127 and comply to the requirements of flow valves according to art. 10).

VALVOLA FORNITA CON

 Oltre tutti gli altri materiali forniti con in questo catalogo di pag. n. 23 gli elettrovalvole sono fornite anche per l'installazione di gas infiammabili, alcuni modelli sono stati autorizzati per il riempimento richiesto dalla direttiva europea (dir. 90/269/CEE) (apparecchi a gas e loro componenti) (EN 10344 (10-84)) (EN 127 e sono conformi ai requisiti di valvole a flusso in base all'art. 10).



HYDRAULIC CONNECTION									
2/2 WAY N.C.									
INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT
1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT

INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT	INLET 1/2" NPT
1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT



HIGHLIGHTS

- 2/2 way direct acting N.C.
- 0 – 25 bar
- Solenoid Valve / Valvola elettromagnetica
- Solenoid Voltages: 115V – 230V – 240V – 250V
- Seal seat in Stainless Steel
- Material: AISI 316SS, Light alloy, Brass (DPT1 – DPT2)
- Manual flow rate regulator (DPT4)
- 3 pole connector (DPT1/DPT2) / LNC 60-4400 (DPT4/DPT5)

PRODUCT DESCRIPTION

Solenoid valve 2/2 way, normally closed. The valve body is made in brass with the seal seat in stainless steel. The coil tube is also made in stainless steel. The coil tube can be unscrewed and the valve is removable in order to allow ordinary maintenance. The DPT4 can be supplied with rubber seal rings, also suitable for aggressive professional coffee machines. Valve supplied with three pole connector (DPT1 / DPT2) LNC 60-4400 (DPT4) connector.



DESCRIZIONE PRODOTTO

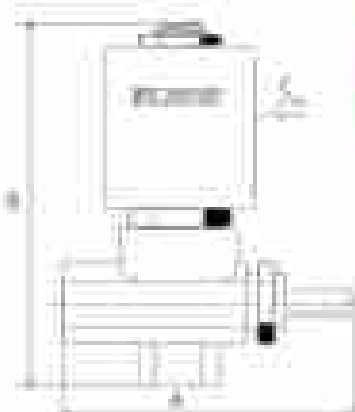
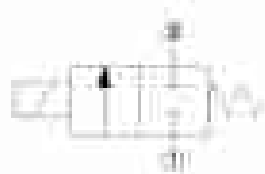
Elettrovalvola 2/2 vie, normalmente chiusa. Il corpo valvola è in ottone con il sedile in acciaio inossidabile. Anche il tubo bobina è in acciaio inossidabile. Il tubo bobina può essere svitato e la valvola è rimovibile in modo da permettere la manutenzione ordinaria della valvola. La DPT4 può essere fornita con anelli sigillanti in gomma, anche per macchine caffè professionali aggressive. Valvola fornita con il connettore a 3 poli (DPT1 / DPT2) LNC 60-4400 (DPT4) connettore.

GENERAL FEATURES / CARATTERISTICHE GENERALI

Basic material / Materiale di base	Basic		
Body material / Materiale del corpo	SPR6	SPR	SPR
Temp. °C	170	180	170
Tube material / Materiale del tubo	Stainless Steel		
Working fluid / Fluid di lavoro	Any water based. See DPT4 D4		
Electrical connection / Connessione elettrica	3.1 x 0.8 female connector LNC 60-4400		
Valve body / Corpo di valvola	According to EN 10770		
Test pressure / Pressione di prova	200 ± 0.05 bar / 29.00 MPa	100 ± 0.05 bar / 14.00 MPa	100 ± 0.05 bar / 14.00 MPa
Test pressure / Pressione di prova	17 bar	12 bar	12 bar
Working temp. / Temp. di lavoro	120 °C	80 °C	80 °C
Max temp. / Temp. Max	150 °C	100 °C	100 °C
Approved / Certificazione	EN 10770	EN	EN

SPECIFICATIONS / CARATTERISTICHE

CONNECTION	DPT4 Ø mm	P1 mm	VALVE BODY		THREADS mm			CODE
			ØC	ØC	A	B	C	
1/8"	1.5	0.08	25	25	26	27	40	6711
1/8"	2.0	0.10	22	22	26	27	40	6712
1/8"	2.8	0.08	16	16	26	27	40	6713
1/8"	1.0	0.08	25	27	26	27	40	6714
1/8"	1.0	0.10	22	22	26	27	40	6715
1/8"	1.5	0.12	12	12	26	27	40	6716
1/8"	1.8	0.08	16	16	26	27	40	6717
1/8"	1.8	0.10	16	16	26	27	40	6718
1/8"	1.8	0.12	10	10	26	27	40	6719
1/8"	1.8	0.15	25	27	26	27	40	6720
1/8"	1.0	0.15	22	22	26	27	40	6721
1/8"	2.8	0.18	25	27	26	27	40	6722



STANDARD CONNECTION			
2/2 WAY N.C.			
1/8"	1/8"	1/8"	1/8"

SERIES 67
COMPRESSOR CAPACITY CONTROL VALVE 6745
Electrovalvola 6745 per controllo capacità su compressori



Series 67



HIGHLIGHTS

- 1/2" NPT 30 Bar
- Switching 3.6kW max
- Solid STATE - 100%

PRODUCT DESCRIPTION

The Solenoid valve 6745 has been designed specifically to be installed on capacity control system for compressors, such as, for instance, systems and valve refrigerators for refrigeration, for different large configuration and different coil voltage, phase contact our technical department.

DESCRIZIONE PRODOTTO

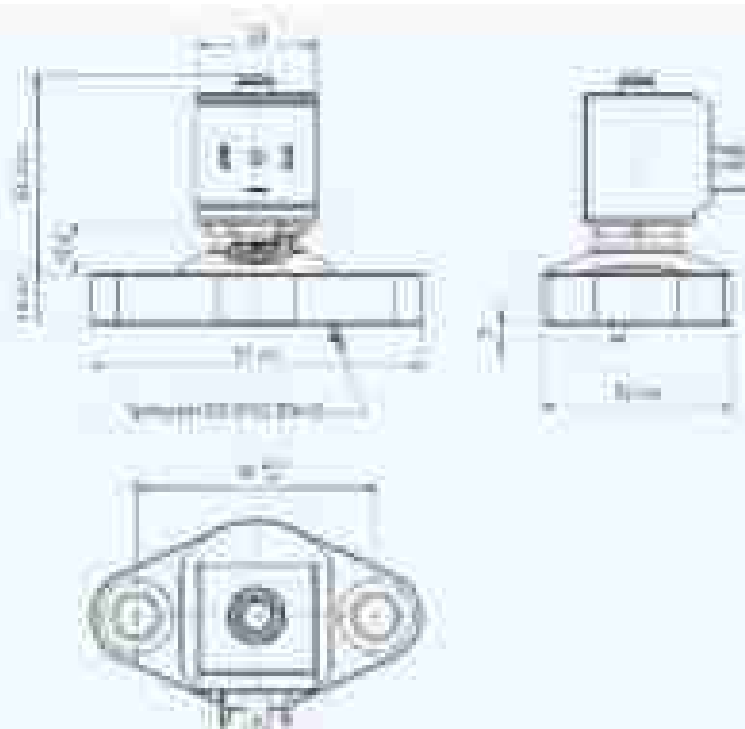
L'elettrovalvola 6745 è stata progettata in modo specifico per essere installata su sistemi per la regolazione di capacità dei compressori, quali, ad esempio, sistemi e valvole frigorifere per refrigerazione, per differenti grandi configurazioni e differenti voltaggi, fase contatto o tecnico supporto.

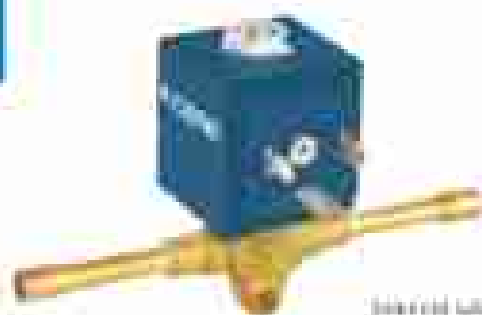


CETME S.p.A.
 Via Salaria, 1000 - 00198 Roma (RM)

GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	ALU 6061 T6 (EN 17-12)
Body finish / Finitura esterna	PTFE-PTFE
Seat material / Materiale lancia	Stainless steel
Working fluid / Fluidi di lavoro	AMF, Synthetic refrigerant oil
Electrical connection / Collegamento elettrico	3.2 x 0.8 fast-on terminals / 4x0.8mm
Electrical coil / Cavo di alimentazione	3-core cable with shield
Coil voltage / Voltaggio	220-240VAC 50/60Hz
Coil power / Potenza nominale	100W
Approval / Certificazione	UL
Body position / Posizione del corpo	Vertical
WCP	20 bar
Body size / Dimensione corpo	Ø110mm
Medium temperature range / Temperatura fluido	-40°C / +40°C
Medium temperature range / Temperatura ambiente	-40°C / +60°C
Flow rate (l/min) / Portata PV	000-1000 (1.5 L/min)





HIGHLIGHTS

- 2/2 way direct acting N.C.
- 0 - 25 bar
- Seal/Seals: PTFE - 100%PTFE O-RING - 60/10
- Sows and mounting bracket
- All type of refrigerant fluid except ammonia (R717)
- ODF fitting connection and SAC Flare
- 3 pin connector (PNS included) - (UN 100-440) (EN 60309)

PRODUCT DESCRIPTION

Direct acting 2/2 way, normally closed. The valve body is made in brass (in part of the coil body, with all the other internal components are in stainless steel). The design of the valve is able to ensure outstanding performance in terms of maximum operating pressure difference. The valve can be installed on all the most common refrigeration applications with a compatibility with all the main refrigerant fluids. Available with 10 bar maximum pressure, valve supplied with three pin connector PTFE - UN 100-440 (EN 60309) and mounting bracket (see 0025).

DESCRIPTION PRODOTTO

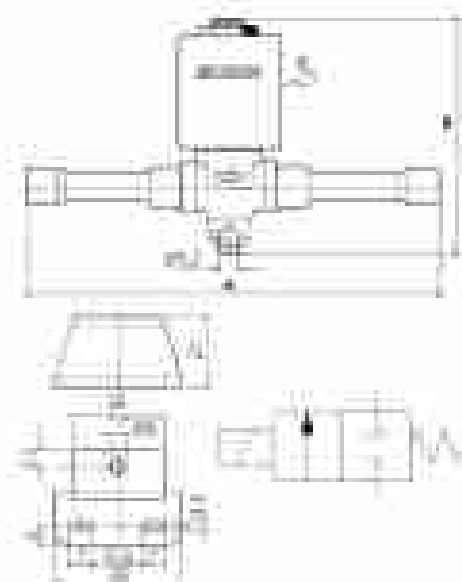
Elettrovalvola 2/2 vie, azionamento diretto, a corpo valvola in acciaio inossidabile (parte di corpo valvola, mentre tutto gli altri componenti sono in acciaio). Il design della valvola è in grado di garantire prestazioni eccezionali in termini di massima differenza di pressione. La valvola può essere installata su tutte le principali applicazioni frigorifere ed è compatibile con tutti i principali fluidi refrigeranti. Disponibile per pressioni fino a 10 bar. Fornita con il connettore trifase PTFE - UN 100-440 (EN 60309) e staffa di fissaggio (vedere 0025).

GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Brass	
Body material / Materiale guarnizioni	PTFE	100%PTFE
Fluid Temp. °C / Temp. fluido °C	-15 / +10	-20 / +10
Max. operating pressure / Massimo carico	10 / 10 bar	
Working Temp. °C / Temp. ambiente °C	-10 / +40	
Working fluid / Fluidi di lavoro	All type of refrigerant fluid except ammonia - R717	
Factory connection / Connessioni di fabbrica	ODF and 3/8" flare on female - (UN 100-440)	
Available sizes / Dimensioni disponibili	Ranging from 0.07 to 1.0	
Model / Modello	6800 - 6801 - 6802 - 6803	6804 - 6805 - 6806
20/20 VAC 50/60 Hz - Apparent 0.2 VA	0.7 VA	1.0 VA
20/20 VAC 50/60 Hz - Apparent 0.2 VA	2.7 VA	3.5 VA
10/20 VAC - Apparent 0.2	1.0 VA	1.5 VA

SPECIFICATIONS / CARATTERISTICHE

CONNECTION	DN/OD ø Used	Kv m³/h.	MATING FLARE		SIZES CODES			CODE
			AC	BC	A	B	C	
ODF 1/2"	1.5	0.170	25	12	11.5	27	40	6800
ODF 3/4"	1.5	0.170	25	12	11.5	27	47	6801
ODF 1" (max)	1.8	0.200	25	12	11.5	28	50	6802
ODF 3/8"	1.0	0.170	25	12	11.5	26	30	6803
SAC FLARE 1/2"	2.5	0.370	25	12	26	47	40	6804
SAC FLARE 3/8"	1.0	0.170	25	12	11	26	30	6805
ODF 1/2"	1.5	0.170	25	12	11.5	27	47	6806



HYDRAULIC CONNECTION

2/2 WAY N.C.				
INLET (H)	INLET (C)	OUT (H) (B)	OUT (C) (B)	INLET (H)

SERIES 68 AD
REFRIGERATION SOLENOID VALVE 2/2 WAY N.C.
 Elettrovalvola per refrigerazione 2/2 vie N.C.



Q₁ - Q₂ VALVE CAPACITY MEDIUM / CAPACITÀ VALVOLE - FLUIDO

MODEL	SP	SUBOVERSUM	W: 0.1	ΔP: 0.2	W: 0.3	ΔP: 0.4	ΔP: 0.5	W: 0.6
8808 8807 8812	0.13	R134a	0.25	1.00	0.80	0.70	0.25	0.25
		N2O	0.30	1.10	0.90	0.80	0.30	0.30
8810 8811	0.25	R134a	0.35	1.40	0.90	0.80	0.30	0.30
		R404A	0.40	1.60	1.00	0.90	0.35	0.35

CONDENSING TEMPERATURE: +20° / TEMPERATURA DI CONDENSAZIONE: +20° C
 EVAPORATING TEMPERATURE: -10° C / TEMPERATURA DI EVAPORAZIONE: -10° C

For different condensing temperatures, the valve capacity of the series could be determined in the following way:
 Per condensatori diverse di temperatura di condensazione si può determinare la relativa capacità delle elettrovalvole nei seguenti modi:

$$Q_2 = Q_1 \cdot C_1$$

Tab. C₁: Correction factor of the condensing temperature / Fattore di correzione della temperatura di condensazione

IMC		→ °C	0	+10	+20	+30	+40	+50
R134a	↕	0.04	0.99	0.97	0.95	0.93	0.91	0.90
R22	↕	0.03	0.99	0.96	0.94	0.92	0.90	0.89
R404A	↕	0.04	0.99	0.96	0.94	0.92	0.90	0.89
R404A/R22	↕	0.03	0.97	0.95	0.93	0.91	0.89	0.88

Q₁ - Q₂ VALVE CAPACITY MEDIUM / CAPACITÀ VALVOLE - FLUIDO

MODEL	SP	SUBOVERSUM	TEMP. CONDENSATION CONDENSATION TEMP	ΔP: 0.2	ΔP: 0.3	ΔP: 0.4	ΔP: 0.5	ΔP: 0.6
8808 8807 8812	X/17	R134a	+35	0.54	0.80	0.72	0.65	0.56
			+40	0.52	0.78	0.70	0.63	0.52
			+45	0.50	0.75	0.67	0.60	0.49
			+50	0.48	0.73	0.65	0.58	0.47
			+55	0.46	0.70	0.62	0.55	0.44
			+60	0.44	0.68	0.60	0.53	0.42
		R404A	+35	0.62	0.90	0.82	0.75	0.64
			+40	0.60	0.88	0.80	0.73	0.62
			+45	0.58	0.86	0.78	0.71	0.60
			+50	0.56	0.84	0.76	0.69	0.58
			+55	0.54	0.82	0.74	0.67	0.56
			+60	0.52	0.80	0.72	0.65	0.54
8810 8811 8817	X/17	R134a	+35	0.75	1.10	1.02	0.95	0.80
			+40	0.73	1.07	1.00	0.93	0.78
			+45	0.71	1.04	0.97	0.90	0.75
			+50	0.69	1.01	0.94	0.87	0.72
			+55	0.67	0.98	0.91	0.84	0.70
			+60	0.65	0.95	0.88	0.81	0.68
		R404A	+35	0.85	1.20	1.12	1.05	0.88
			+40	0.83	1.17	1.10	1.03	0.86
			+45	0.81	1.14	1.07	1.00	0.84
			+50	0.79	1.11	1.04	0.97	0.82
			+55	0.77	1.08	1.01	0.94	0.80
			+60	0.75	1.05	0.98	0.91	0.78

EVAPORATING TEMPERATURE: -10° C / TEMPERATURA DI EVAPORAZIONE: -10° C

For different condensing temperatures, the valve capacity of the series could be determined in the following way:
 Per condensatori diverse di temperatura di condensazione si può determinare la relativa capacità delle elettrovalvole nei seguenti modi:

$$Q_2 = Q_1 \cdot C_2$$

Tab. C₂: Correction factor of the condensing temperature
 Tab. C₂: Fattore di correzione della temperatura di condensazione

IMC		→ °C	0	+10	+20	+30	+40	+50
R134a	↕	0.05	0.98	0.96	0.94	0.92	0.90	0.89
R404A	↕	0.04	0.98	0.95	0.93	0.91	0.89	0.88



HIGHLIGHTS

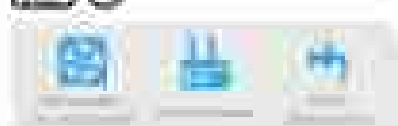
- 2/2 way pilot operated N.C.
- 0.5 - 20 bar
- Available direct acting version
- Seal/liner: NBR - EPDM - PTFE
- High-Temp. coil
- Available ATEX approved model
- Temperature Valve / Valvola Temperature
- Inlet - Outlet - Inlet Size - 1/2" 1/4" 1/8"
- 1 year warranty (PNE 144220) - 12M (CETME 4402) ON A REQUEST

PRODUCT DESCRIPTION

Pilot operated 2/2 way, normally closed, pilot operated. Available with direct acting operation (8303-8303-8304). The body valve is made in brass as well as the cone tube. The tube can be also anodized in order to reduce entry of contaminants. It is suitable for various applications, with fluid at different fluid temperatures. Particularly indicated for water (approved for consumption). Valve supplied with 1/2" pipe connector. PNE - 144220-4402 (25) 440202

DESCRIZIONE PRODOTTO

Attivazione 2/2 vie, normalmente chiusa, servo pilotata. Disponibile anche versione a valvola diretta (8303-8303-8304). Il corpo e il cono, così come il tubo, è in ottone. Il tubo è anche anodizzato per prevenire la contaminazione dell'acqua. Può essere impiegato in numerose applicazioni, con fluidi a temperature diverse. Particolarmente indicata per il servizio domestico di consumo. Distribuzione fluidi con connector 1/2" - PNE 144220-4402 (25) 440202

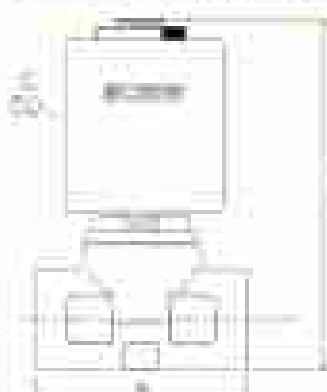


GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Brass		
Seat material / Materiale sede	EPDM	NBR	PTFE
Seat Temp. / T. Sede (max) °C	125°	90°	150°
Seal material / Materiale anello	Brass		
Cone tube / Tubo cono	In. 1/2" 1/4" 1/8" 1/2"		
Electrical control / Control. elettrico	AC 240V 50/60 Hz, 10A - 100V 50/60 Hz		
Pressure class / Classe di pressione	According to EN 10757		
Coil power / Potenza	110/150W 230V AC	110/150W 230V	110/150W AC
Coil power / Potenza nominal	18 VA	31 VA	31 VA
Max. coil Temp. / Temp. max. bobina	85 °C	85 °C	85 °C
Seat Temp. / Temp. Sede	120 °C	90 °C	150 °C
Approved / Approvato	ATEX 13	ATEX	ATEX

SPECIFICATIONS / CARATTERISTICHE

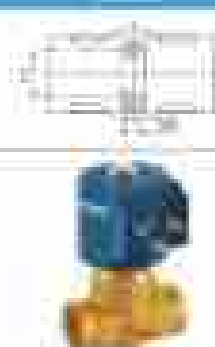
	CONNECTION	ORIFICE (mm)	N.C. - PNE 144220			2/2 WAY - PNE 144220			CODE
			1/4"	1/2"	3/4"	1/4"	1/2"	3/4"	
N.C. - PNE 144220	1/4" NPT	11	1.60	20	20	20	20	20	8303
	1/4" NPT	11	1.52	20	20	20	20	20	8311
	1/4" NPT	11	1.50	20	20	20	20	20	8304
	1/4" NPT	11	1.48	20	20	20	20	20	8313
	1/4" NPT	11	1.45	20	20	20	20	20	8312
2/2 WAY - PNE 144220	1/4" NPT	11	1.60	20	20	20	20	20	8303
	1/4" NPT	11	1.52	20	20	20	20	20	8311
	1/4" NPT	11	1.50	20	20	20	20	20	8304
	1/4" NPT	11	1.48	20	20	20	20	20	8313
	1/4" NPT	11	1.45	20	20	20	20	20	8312



TECHNICAL DATA

2/2 WAY N.C.

N.C. 1/2"



SERIES 84

SOLENOID VALVE SERVO-ACTUATED 2/2 WAY N.C.

Elettrovalvola servo-azionata 2/2 vie N.C.



Series 84

HIGHLIGHTS

- 2/2 way servo-actuated N.C.
- 0.1 - 5 bar
- Servomotor: 100W - 250W - 400W
- Available with EPDM - NBR certified EPDM for drinking water
- Servomotor/Volute / Volute Assemblable
- Possible Media: Air - Water - Light Oils
- 2 year warranty (PES included) - UNI ISO 9001-EN 43000

PRODUCT DESCRIPTION

Servo-actuated 2/2 way, normally closed, spring-assisted, no return operation pressure required. Connection 1/2" to 2". Available with NBR for drinking water applications. Servomotor with 100W (100W) 250W (250W) 400W (400W) 100W (100W) 250W (250W) 400W (400W).

DESCRIZIONE PRODOTTO

Servo-azionata 2/2 vie, normalmente chiusa, con ritorno a pressione non richiesto per l'operazione. Connessioni 1/2" a 2". Disponibile con NBR per applicazioni acqua potabile. Servomotori con 100W (100W) 250W (250W) 400W (400W) 100W (100W) 250W (250W) 400W (400W).



GENERAL FEATURES / CARATTERISTICHE GENERALI

Body Material / Materiale corpo	Brass		
Body Material / Materiale guarnizione	EPDM	NBR	PES
Body Temp. °C / Temp. fluido °C	120°C	100°C	120°C
Body Material / Materiale corpo	Stainless steel		
Body Material / Materiale corpo	RC-C		
Technical correct / Corretto tecnico	5/2 + 0.2 for air technical - ITN 5/2 400W		
Technical correct / Corretto tecnico	1/4 according to EN 60720		
Model / Modello	8402 - 8404 - 8410 - 8412 - 8415 - 8416 - 8417 - 8418 - 8419		
Model / Modello	8402 - 8404 - 8410 - 8412 - 8415 - 8416 - 8417 - 8418 - 8419		
100W VAC 50/60Hz	100W		
100W VAC 400W	100W		
100W VAC 400W	100W		

SPECIFICATIONS / CARATTERISTICHE

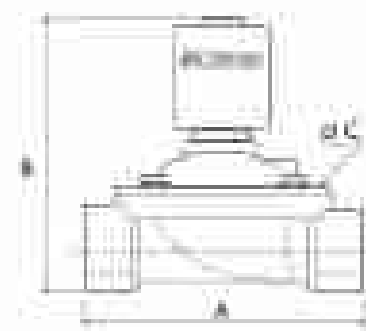
CONNECTION	SERVO MOTOR	KV	MUTUAL		DIMENSIONAL DATA			CODE
			AC	DC	A	B	C	
1/2 NPT	10	2.00	5	5	80	100	40	8402
1/2 NPT	10	2.00	5	5	80	100	40	8404
1/2 NPT	10	2.00	5	5	80	100	40	8410
1/2 NPT	10	2.00	5	5	80	100	40	8412
1/2 NPT	10	2.00	5	5	80	100	40	8415
1/2 NPT	10	2.00	5	5	80	100	40	8416
1/2 NPT	10	2.00	5	5	80	100	40	8417
1/2 NPT	10	2.00	5	5	80	100	40	8418
1/2 NPT	10	2.00	5	5	80	100	40	8419

HYDRAULIC CONNECTION

2/2 WAY N.C.

ACUT

8402



SOLENOID VALVE PILOT OPERATED 2/2 WAY NORMALLY CLOSED

Elettrovalvola 2/2 vie, normalmente chiusa, servo comandata



HIGHLIGHTS

- 2/2 way pilot operated N.C.
- 0.25 - 10 bar
- DN 10-25 mm
- Connector 1/4" - 1"
- Seal/Porting: NBR - EPDM - PTFE
- Media: Water - Air - Water - Light Oil
- Available with stainless steel case (size 1, 10 - 24 - 3)
- 2 pole connector (Pilot inrush) - LRA 500 mVDC (24V AC/24V)

PRODUCT DESCRIPTION

Autocomando 2/2 vie, normalmente chiuso, pilotato. Specifico soprattutto per uso in macchine ed impianti con fluidi puliti. Disponibile con case in acciaio inossidabile, valore applicato con il terzo polo connector (Pilot - LRA 500 mVDC 24V AC/24V).

DESCRIZIONE PRODOTTO

Autocomando elettromagnetico 2/2 vie, normalmente chiuso. Valvola progettata per uso in macchine ed impianti con fluidi puliti. Disponibile con case in acciaio inossidabile, valore applicato con il terzo polo connector (Pilot - LRA 500 mVDC 24V AC/24V).

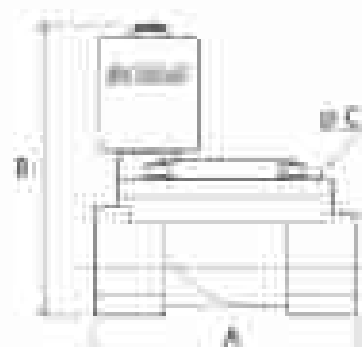
GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Alloy Steel		
Seat material / Materiale guarnizione	EPDM	NBR	PTFE
Body Temp. / T° Corp. Fluidi C°	140°	90°	150°
Seat material / Materiale guarnizione	NBR - EPDM - PTFE		
Ambient Temp. / Temp. ambiente	80°C		
Working fluid / Fluido di lavoro	Water or Light Oil		
Electrical connect. / Connex. elettrica	A.T. e L.T. 24V AC/24V DC		
Flange/Class / Classe A components	Flangeing to EN 10755		
Max. Operating working pressure / Pressione massima di esercizio	0.25 bar		
Coil voltage / Voltaggio	24V 230VAC 50/60Hz	110V 110VAC 50Hz	115.5V 110VDC
Coil Power / Potenza indotta	10W	10W	10W
Ambient Temp. / Temp. ambiente	80°C	80°C	80°C
Approval / Certificazione	CE mark	CE mark	CE

INDICATIONS / QUANTIFICAZIONE

CONNECTION	EFFECT Ø mm	Kv inch	MOUNTING		DIMENSIONS mm			CODE
			45°	90°	A	B	C	
G 1/4"	10	1.05	16	16	41	70	40	8530
G 1/8"	12	1.05	16	16	41	70	40	8531
G 1/2"	15	1.05	16	16	41	70	40	8532
GPT 1/8"	12	1.05	16	16	41	70	40	8533
GPT 1/2"	15	1.05	16	16	41	70	40	8534
G 1/2"	15	1.05	16	16	41	70	40	8535
G 1/8"	10	1.05	16	16	41	70	40	8536
G 1"	25	2.05	16	16	41	70	40	8537

Code table at dimensions mm. 1 inch dimensions in actual size.



SERIES 86

SOLENOID VALVE PILOT OPERATED 2/2 WAY NORMALLY CLOSED

Elettrovalvola 2/2 vie, normalmente chiusa, serbo comando

CETME

Series 86

HIGHLIGHTS

- 2/2 way pilot operated N.C.
- 0.3 - 10 bar
- DN 10-25 mm
- Connection 1/8" - 3/4"
- Seal/Spindel NBR - EPDM - PTFE
- Air - Water - Light Oil
- Stainless steel coil 110W
- 3 pin connector (PSS included) - UM 110-600-016 & 110-010

PRODUCT DESCRIPTION

Solenoid valve 2/2 way, normally closed, pilot operated. Available with or for water hammer damped. These solenoid valves are used for various fluids and in a wide variety of applications.

Take care when using three pin connector (PSS - UM 110-600-016 & 110-010)

DESCRIZIONE PRODOTTO

Elettrovalvola bidirezionale, 2/2 vie, normalmente chiusa. Versione disponibile con o senza smorzatore a idraulico. Queste elettrovalvole sono usate per vari fluidi e in una grande varietà di applicazioni. Elettrovalvola Avvela con connettore a tre pin (PSS - UM 110-600-016 & 110-010)



GENERAL FEATURES / CARATTERISTICHE GENERALI

Body Material / Materiale corpo	Brass		
Seal material / Materiale guarnizione	EPDM	NBR	PTFE
Fluid Temp. / T. Fluido	120°C	80°C	120°C
Seal material / Materiale guarnizione	NBR / EPDM / PTFE		
Medium Temp. / Temp. ambiente	80°C		
Working fluid / Fluido di lavoro	Water, Air, Light Oil		
Electrical current / Corrente elettrica	2.2 x 110-115 VA (max) - 110-115 VA (min)		
Coil voltage / Tensione bobina	110-115 VAC 50/60Hz		
Min. differential working pressure / Press. differenziale di lavoro	0.3 bar		
Coil voltage / Tensione	110-115 VAC 50/60Hz	110-115 VAC 50/60Hz	110-115 VAC
Coil power / Potenza bobina	2.2 VA	2.2 VA	2.2 VA
Medium Temp. / Temp. ambiente	80°C	80°C	80°C
Approval / Certificazione	CE, PED	CE, PED	CE

SPECIFICATIONS / CARATTERISTE

CONNECTORS	ORICE Ø (mm)	1/2 inch	MEDIUM (mm)		ORIFICES (mm)			CODE
			NC	NC	A	B	C	
1/2"	12	1/2"	12	12	12	12	12	8012
1/4"	10	1/4"	10	10	10	10	10	8014
1/8"	8	1/8"	8	8	8	8	8	8016
1/4"	10	1/4"	10	10	10	10	10	8018
1/2"	12	1/2"	12	12	12	12	12	8020
3/4"	18	3/4"	18	18	18	18	18	8022
1"	25	1"	25	25	25	25	25	8024
1 1/4"	32	1 1/4"	32	32	32	32	32	8026
1 1/2"	40	1 1/2"	40	40	40	40	40	8028
2"	50	2"	50	50	50	50	50	8030
2 1/2"	63	2 1/2"	63	63	63	63	63	8032
3"	75	3"	75	75	75	75	75	8034
3 1/2"	90	3 1/2"	90	90	90	90	90	8036
4"	100	4"	100	100	100	100	100	8038
4 1/2"	110	4 1/2"	110	110	110	110	110	8040
5"	125	5"	125	125	125	125	125	8042

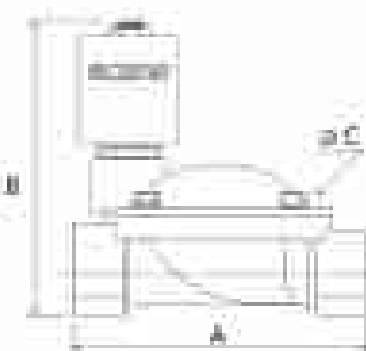
HYDRAULIC CONNECTION



Special connector
Connettore speciale



Manifesterio (22mm) Fluido



SERIES BT

SOLENOID VALVE PILOT OPERATED 2/2 WAY NORMALLY OPEN

Elettrovalvola 2/2 vie, normalmente aperta, servo comandata



HIGHLIGHTS

- 2/2 way pilot operated 2/2
- 0.5 – 10 bar
- DN 10-75 mm
- Connection 3/8" - 3"
- Seal/Seals: NBR - EPDM - FKM
- Air - Water - Light Oil
- Stainless steel coil 24V
- 4 ports: 2000W/100 (A3)mm³ - 100 (A3)440 (DN 63)mm³

PRODUCT DESCRIPTION

Servo controlled 2/2 Way, normally open, pilot operated. Available with or for water/hydraulic purged. These solenoid valves are used for various hydraulic and pneumatic applications. Valve supplied with 1 phase pilot connection: 24V - 100 (A3)440 (DN 63)mm³

DESCRIZIONE PRODOTTO

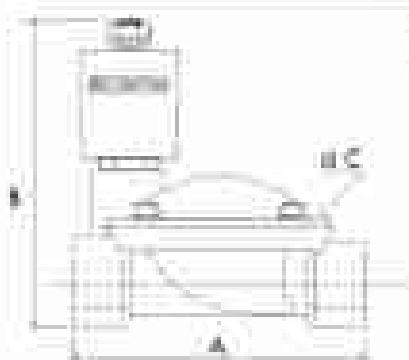
Interruttore elettromagnetico 2/2 vie, normalmente aperto, servito pilotabile con struttura 24V a 100 (A3)440 (DN 63)mm³ con guarnizione fluidica in gomma. Valvola a 4 porte: 2000W/100 (A3)mm³ con struttura 24V - 100 (A3)440 (DN 63)mm³

GENERAL FEATURES / CARATTERISTICHE GENERALI

Body Material / Materiale corpo	Brass		
Seal Material / Materiale guarnizione	NBR	NBR	FKM
Temp. °C	120°C	80°C	120°C
Seal Material / Materiale guarnizione	NBR/EPDM		
Seal Material / Materiale guarnizione	NBR		
Working Fluid / Fluid di lavoro	Water, Air, Light Oil		
Working current / Corrente elettrica	2.2 x 500 mA (at nominal: 100 (A3)440)		
Working voltage / Tensione nominale	24VDC/110VAC		
Max. Differential working pressure / Pressione differenziale massima	0.5 bar		
Connection / Collegamento	1/2"-2 1/2" NPT	1/2"-2 1/2" NPT	1/2"-2 1/2" NPT
Coil Power / Potenza nominale	2.2 VA	2.2 VA	2.2 VA
Working Temp. / Temp. ambiente	0°C	0°C	0°C
Approvals / Certificazioni	CE, ISO	CE, ISO	CE

SPECIFICATIONS / CARATTERISTE

CONNECTION	ORIFICE Ø (mm)	H ₁ mm	MEDIUM		ORIFICE (mm)			CODE
			A	B	A	B	C	
G 1/8"	10	1.00	10	10	10	10	10	BT10
G 1/4"	12	1.10	12	12	12	12	12	BT12
G 3/8"	16	1.20	16	16	16	16	16	BT16
G 1/2"	20	1.30	20	20	20	20	20	BT20
G 3/4"	25	1.40	25	25	25	25	25	BT25
G 1"	32	1.50	32	32	32	32	32	BT32
G 1 1/4"	40	1.60	40	40	40	40	40	BT40
G 1 1/2"	50	1.70	50	50	50	50	50	BT50
G 2"	63	1.80	63	63	63	63	63	BT63
G 2 1/2"	80	1.90	80	80	80	80	80	BT80
G 3"	100	2.00	100	100	100	100	100	BT100
G 3 1/2"	125	2.10	125	125	125	125	125	BT125
G 4"	150	2.20	150	150	150	150	150	BT150
G 4 1/2"	175	2.30	175	175	175	175	175	BT175
G 5"	200	2.40	200	200	200	200	200	BT200



HYDRAULIC CONNECTION

2/2 WAY N.O.	
INLET	PISTON

SERIES 88

LATCHING SOLENOID VALVE PILOT OPERATED 2/2 WAY

Electrovalvola bistabile latching servocomandata 2/2 vie

CETME

Series 88

HIGHLIGHTS

- Latching system
- 2/2 way pilot operated 2/2
- 0.25 – 10 bar
- Connection 1/8" – 1"
- Seal/Seals: NBR – EPDM
- Battery-powered element
- Air – Water
- 3 ports version (Pilot included) – 1/8" OD 952 – 3/8" & 1/2" OD

PRODUCT DESCRIPTION

Latching solenoid valve 2/2 way, pilot operated, latching system of water, gases & some petroleum. Magnet latching system that, once energized, the bistable solenoid valve stays in open position without the need for continuous electrical power supply. The latching solenoid valve can be charged from the open back to the closed position with a direct DC solenoid current electrical pulse.

Especially indicated for automatic tap and water saving devices. Model supplied with three ports connector (Pilot – 1/8" OD 952) (On request).

DESCRIZIONE PRODOTTO

Electrovalvola 2/2 vie a latching servocomandata, 2/2 vie

Il sistema a valvola latching 2/2 vie in acciaio latching con magnetismo a pilotaggio a valvola latching sulla pressione aperta senza bisogno di alimentazione elettrica continua, in quanto latching può rimanere nella zona di aperto a pilotaggio con un breve impulso di corrente continua. Particolarmente indicata per rubinetti automatici e rubinetti per il risparmio di acqua.

Modello fornito con connettore a tre vie (Pilot – 1/8" OD 952) (Su richiesta).

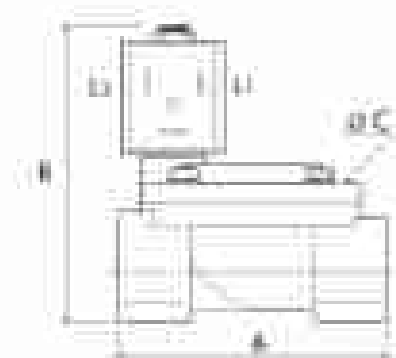


GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Steel
Test pressure / Pressione di prova	10 bar
Fluid temp. / Temp. fluido	90°C
Medium / Tipo di fluido	Water
Working fluid / Fluido di lavoro	Water, Air
Electrical system / Circuito elettrico	5 to 24 VDC solenoid – 24 VDC pilot
Insulation class / Classe di isolamento	According to EN 60730
Act. Differential working pressure / Pressione differenziale di esercizio	0.25 bar
Cooling / Raffreddamento	12-24 VDC
Cool Power / Potenza di raffreddamento	2.5 W
Working temp. / Temp. di esercizio	90°C
Approach / Confezionamento	CE

SPECIFICATIONS / CARATTERISTICHE

CONNECTION	ORIFICE Ø (mm)	ΔP bar	MAX FLOW (m³/h)	Δ	Ø	C	CODE
1/8"	10	0.08	6	61	15.3	40	8813
1/4"	12	0.10	6	61	17.3	40	8814
1/2"	20	0.10	6	61	22.3	40	8815
3/4"	25	0.10	6	61	25.3	40	8816





HIGHLIGHTS

- 2/2 way pilot operated N.C.
- 1 - 10 bar
- Connection 3/8" - 3"
- Seal/Spring PTFE
- 50 Hz
- Nickel plated brass
- Sealing and in corrosion steel
- Spool cartridge PTFE included - 1000 psi (69 bar)

PRODUCT DESCRIPTION

Solenoid valve pilot operated 2/2 way N.C. Range series of valves are especially indicated for vacuum applications. The 1000 psi (69 bar) version, with PTFE rubber seal, spools, glands and seal o-rings. The wide range of valves, with connection from 3/8" to 3" are used in many different fields. The valves with 50 Hz and 60 Hz frequencies are available in 2 different sizes: valve supplied with three wire connector (400 - 500 V) and 2 wire connector.

DESCRIZIONE PRODOTTO

Elettrovalvola servocomandata 2/2 vie N.C. Questa serie di valvole è particolarmente indicata per applicazioni nel vuoto. L'attuatore 1000 psi (69 bar) versione in PTFE include in dotazione i guarniti, i glandi e i guarniti O-ring. L'ampia gamma di valvole, con connessioni da 3/8" a 3" è impiegata in molti settori diversi. Le valvole con frequenze di 50 Hz e 60 Hz sono disponibili in 2 diverse taglie: valvola fornita con cavo a tre conduttori (400 - 500 V) e con cavo a due conduttori.

GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Brass		
Seal material / Materiale guarniti	PTFE		
Fluid Temp. °C / Temp. Fluido °C	100°C		
Seal material / Materiale guarniti	Elastomer Seal		
Medium Temp. / Temp. ambiente	80°C		
Working Temp. / Press. di lavoro	10 bar		
Electrical connect. / Connessione elettrica	2.2 x 0.125 inch sq. connector - 100 100 4000		
Pressure class / Classe di pressione	Fluiddesigning IN EXISTED		
Min. Differential working pressure / Minimo differenziale di pressione	1 bar		
Configuration / Configurazione	1000 PSI 3/8" - 3"	1000 PSI 3/8" - 3"	1000 PSI 3/8" - 3"
Coil Power / Potenza bobina	18 W	21 W	11 W
Medium Temp. / Temp. ambiente	100 °C	80 °C	80 °C
Pressure / Pressione	10 bar	10	10

SPECIFICATIONS / CARATTERISTICHE

CONNECTION	DIRECT Ø (mm)	IN Ø (mm)	N.C. (mm)		INVERSIONE (mm)			CODE
			AC	DC	A	B	C	
C38	10	14	30	3	10	110	40	9013
Q10	10	14	30	3	10	110	40	9014
C50	8	10	30	3	10	90	30	9015
Q10	8	10	30	3	10	90	30	9016
C25	20	25	30	3	100	100	40	9017
Q1	20	25	30	3	100	100	40	9018
Q100	20	25	30	3	100	100	40	9019
Q100	20	25	30	3	100	100	40	9020
Q100	20	25	30	3	100	100	40	9021



HYDRAULIC CONNECTION

2/2 WAY N.C.		2/2 WAY N.O.
INLET	OUTLET	INLET

SERIES 93
SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C.
Elettrovalvola azione diretta 2/2 vie N.C.



HIGHLIGHTS

- 2/2 way direct acting N.C.
- 3 - 20 bar
- Self/Manual: 120W - 18W
- Sealing seat: nitrile/butyl rubber
- Gas, Diesel Oil, Hydraulic Oil, Water, Air, Steam
- 100% fail safe
- 3 year warranty IP65 included - UNI EN 60400-DIN EN 60500

PRODUCT DESCRIPTION

Self-acting valve direct acting, 2/2 way (normally closed). The device is made in brass and the sealing seat is nitrile/butyl rubber with the exception of 10112 and 10114. The device of series 93 is equipped with a powerful coil (120 W - 18W) for high performance suitable for different type of fluids, including hydraulic, diesel-oil and gas. When supplied with 3-wire cable, current of 18W - UNI EN 60400-DIN EN 60500.

DESCRIZIONE PRODOTTO

Valvola solenoide 2/2 vie ad azione diretta, normalmente chiusa. Il corpo della valvola è in ottone e la sede di tenuta è in nitrile/butil con l'eccezione delle 10112 e 10114. Questo serie di valvole è equipaggiata con una potente bobina (120 W - 18W) per raggiungere alte prestazioni. Compensabile con diversi fluidi, tra cui: idraulico, diesel e gas. Dotata di cavo a tre fili con corrente di 18W - UNI EN 60400-DIN EN 60500.



GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Brass		
Seat material / Materiale sede	NBR	PTFE	
Body Temp. / Temp. corpo	0°C	120°C	
Seat material / Materiale sede	NBR		
Working fluid / Fluid di lavoro	Air, water, steam, Diesel Oil, hydraulic		
Electrical symbol / Simbolo elettrico	NO. 120W or 18W (1) NO. 100W		
Indicator light / Luce di segnalazione	(1) according to EN 60730		
Coil voltage / Voltaggio	120VAC 50/60Hz	110V / 120VAC 50/60Hz	110V / 120VAC
Coil power / Potenza bobina	120W	18W	18W
Working temp. / Temp. ambiente	0°C	0°C	0°C
Body temp. / Temp. corpo	120°C	120°C	120°C
Approved / Certificazioni	CE, UL	UL	CE

SPECIFICATIONS / CARATTERISTICHE

CONNECTION	GPM / L/min	FV / A/D	NUT/2.0 bar		20/10.0 bar			CODE
			AC	DC	4	6	8	
1/2" 12	3.5	0.30	15	17	50	70	80	10112
1/4" 14	1.8	0.14	10	10	40	45	50	10114
1/8" 16	0.5	0.07	5	5	20	25	30	10116
1/4" 18	2.8	0.23	20	20	40	50	60	10118
1/2" 20	3.5	0.30	15	15	40	50	60	10120
1/4" 22	1.5	0.14	5	5	20	25	30	10122
1/2" 24	3.8	0.31	20	20	50	70	80	10124
1/2" 26	4.5	0.38	25	25	60	80	90	10126
1/2" 28	5.0	0.40	30	30	70	90	100	10128





HIGHLIGHTS

- 3/2 Way Direct Acting N.C.
- 5 - 1 bar
- Manual Override
- Seal/Orbita: PTFE
- Direct ON, Wave Signal
- Immersion Valve / Valvola sommergibile
- 3 pin connector (PNS included) - IPE 000 (20V 4000VA)

PRODUCT DESCRIPTION

Series 93 valve direct acting 3/2 way normally closed with manual override. The valve allows the user to shift the solenoid coil from normal position. The normal position is "closed". Pressure (1) which goes to port (2) and the solenoid valve is to operate. When activated, the system shifts the valve to its opposite position. Orbits are intended for frequent usage and are not designed to be used as a primary method of valve actuation. The series 933 is supplied with body made in nickel-plated brass. Valve supplied with three pin connector, IPE000 - IPE 000 4000 Data sheet 000000.

DESCRIZIONE PRODOTTO

L'elettrovalvola di serie 933, azione diretta, 3/2 vie, normalmente chiusa, con comando manuale. La linea manuale permette all'utente di cambiare la valvola quando non è disponibile l'alimentazione della bobina. Il comando manuale è la "posizione" normale di comando esistente e la bobina agisce in senso contrario al normale di azione della valvola. Quando vengono di una specie di valvola, la bobina può essere usata. Il comando manuale deve essere attivato per evitare l'accumulo di olio e il rischio di danni. La bobina 000000 viene fornita con corpo valvola in acciaio nichelato. L'elettrovalvola fornisce con connettore a tre pin - IPE000 - IPE 000 4000 (20V 4000VA).

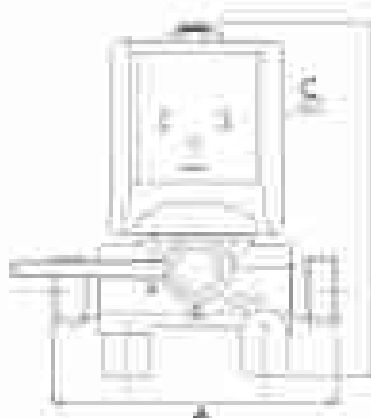


GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	Steel 304SS - nickel plated		
Ball material / Materiale pallina	SS316		
Temp. °C	100°		
Actuator type / Tipo attuatori	Direct		
Working fluid / Fluid di lavoro	Air, water, oil, 11 and 24 bar (11 and 24 bar)		
Electrical control / Controllo elettrico	N.C. 24V 4000VA (20V 4000VA)		
Pressure rating / Classe di pressione	11 bar (11 bar)		
Retention time / Tempo di ritenzione	100%		
Body / Corpo	100%	100%	100%
24V 4000VA (20V 4000VA)	100%	100%	100%
11 bar (11 bar)	100%	100%	100%
100% (100%)	100%	100%	100%
100% (100%)	100%	100%	100%

SPECIFICATIONS / CARATTERISTICHE

CONNECTION	ORBITA	BY	ALUPTI (bar)	ORBITA (bar)	CONNECTION	ORBITA	BY
1/2" NPT	10	1/2" NPT	10	1/2" NPT	1/2" NPT	10	1/2" NPT
1/2" NPT	10	1/2" NPT	10	1/2" NPT	1/2" NPT	10	1/2" NPT
1/2" NPT	10	1/2" NPT	10	1/2" NPT	1/2" NPT	10	1/2" NPT
1/2" NPT	10	1/2" NPT	10	1/2" NPT	1/2" NPT	10	1/2" NPT



HYDRAULIC CONNECTION

3/2 WAY N.C.		
INLET	ORBITA	OUTLET

SERIES 99
SOLENOID VALVE DIRECT ACTING 2/2 WAY N.C.
Elettrovalvola azione diretta 2/2 vie N.C.

CETME

Series 99

HIGHLIGHTS

- 2/2 way direct acting N.C.
- 0 - 25 bar
- Solenoid body:
 - PVC-U, BRASS, PTFE, ALUMIN.
- Water, Air, Steam, Gas, Light Oil
- Servomotor Valve / Valvola servomotor
- Core valve made in stainless steel
- Body valve made in brass
- Sealing seat in stainless steel (BR12, BR13, BR14)
- 3 pin connector (PST) included (AE 301-4400 (DIN 43650A))

PRODUCT DESCRIPTION

Solenoid valve direct acting, 2/2 way normally closed. The body valve is made in brass, while the core valve is stainless steel. The sealing seat is in stainless steel (BR12, BR13, BR14). Suitable for high temperature applications. The valve is long body, the core tube can be unscrewed and the plunger is removable in order to allow an easy maintenance. Valve supplied with three pin connector PST (AE 301-4400 (DIN 43650A)).

DESCRIZIONE PRODOTTO

Valvola solenoide ad azione diretta, 2/2 vie normalmente chiusa. Il corpo valvola è in ottone mentre il cono valvola è in acciaio. La sede di tenuta è in acciaio (BR12, BR13, BR14). Adatta per applicazioni ad alta temperatura. La valvola è a corpo lungo, il tubo cono valvola può essere smontato ed il pistone è rimovibile in modo da permettere una facile manutenzione. Valvola fornita con tre pin connector PST (AE 301-4400 (DIN 43650A)).



GENERAL FEATURES / CARATTERISTICHE SINTETICHE

Body material / Materiale corpo:	Brass			
Seat material / Materiale sede:	BR12	BR13	PTFE	BR14
Seat Temp. °C / Sede: Grade °C	150	150	150	150
Valve material / Materiale valvola:	Stainless Steel			
Working fluid / Fluid di lavoro:	Air, Water, Steam, Gas, Light Oil			
Electrical connector / Connessione elettrica:	3 Pin 5A (AE 301-4400 (DIN 43650A))			
Protection class / Classe di isolamento:	IP 65 according to IEC 60720			
Working Temp. / Temp. di esercizio:	APC			
Control signal / Segnale di comando:	24V DC / 24V AC (AE 301-4400 (DIN 43650A))			
24V-230 VAC 50-60Hz:	10VA			
Approx. CL. I/II	APC			
100-120 VAC 50-60Hz:	10VA			
Approx. CL. III	APC			
12-24 VDC:	10VA			
Approx. CL.	APC			

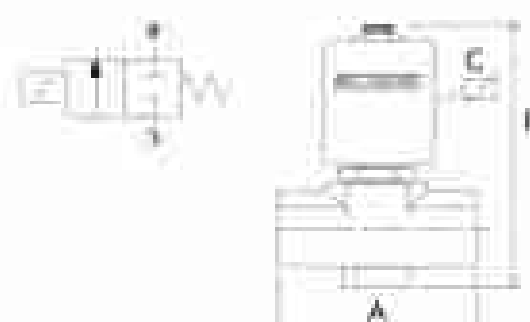
SPECIFICATIONS / CARATTERISTICHE

CONNECTION	2/PIN 2 (mm)	R ₁ (mm)	N.C.P.D. mm		OVERALL DIM. mm			CODE
			AC	DC	A	B	C	
1/2" 14	1.8	0.250	11	8	37	80	80	2912
1/2" 14	1.1	0.250	8	2	42	81	80	2947
1/2" 14	1.8	0.250	11	8	37	80	80	2958
1/2" 14	1.1	0.250	8	2	37	80	80	2972
1/2" 14	1.1	0.250	8	2	37	80	80	2973
1/2" 14	1.1	0.250	8	2	37	80	80	2974
1/2" 14	1.1	0.250	8	2	37	80	80	2975
1/2" 14	1.1	0.250	8	2	37	80	80	2976
1/2" 14	1.1	0.250	8	2	37	80	80	2977
1/2" 14	1.1	0.250	8	2	37	80	80	2978
1/2" 14	1.1	0.250	8	2	37	80	80	2979
1/2" 14	1.1	0.250	8	2	37	80	80	2980
1/2" 14	1.1	0.250	8	2	37	80	80	2981
1/2" 14	1.1	0.250	8	2	37	80	80	2982
1/2" 14	1.1	0.250	8	2	37	80	80	2983
1/2" 14	1.1	0.250	8	2	37	80	80	2984
1/2" 14	1.1	0.250	8	2	37	80	80	2985
1/2" 14	1.1	0.250	8	2	37	80	80	2986
1/2" 14	1.1	0.250	8	2	37	80	80	2987
1/2" 14	1.1	0.250	8	2	37	80	80	2988
1/2" 14	1.1	0.250	8	2	37	80	80	2989
1/2" 14	1.1	0.250	8	2	37	80	80	2990
1/2" 14	1.1	0.250	8	2	37	80	80	2991
1/2" 14	1.1	0.250	8	2	37	80	80	2992
1/2" 14	1.1	0.250	8	2	37	80	80	2993
1/2" 14	1.1	0.250	8	2	37	80	80	2994
1/2" 14	1.1	0.250	8	2	37	80	80	2995
1/2" 14	1.1	0.250	8	2	37	80	80	2996
1/2" 14	1.1	0.250	8	2	37	80	80	2997
1/2" 14	1.1	0.250	8	2	37	80	80	2998
1/2" 14	1.1	0.250	8	2	37	80	80	2999
1/2" 14	1.1	0.250	8	2	37	80	80	3000

HYDRAULIC CONNECTION

2/2 WAY N.C.

1/2" 14	1/2" 14	1/2" 14
1/2" 14	1/2" 14	1/2" 14





HIGHLIGHTS

- 2/2 way direct acting N.C.
- DN 25 bar
- Steel/Brass: EPDM, PTFE, RUBON
- Heavy, 24V, 240V, 120V AC
- Temperature range / Intervallo temperatura: -20°C to +60°C
- Coil body made in stainless steel
- Body valve made in nickel-plated brass (9922)
- Sealing seat in stainless steel (9922)
- 3 cable connectors (995 included)

PRODUCT DESCRIPTION

Solenoid valve direct acting with flow rate-regulation, 2/2 way normally closed. The valve has 1/2" connections (2.54"). Available with different types of seats. It is suitable for various fluids and applications. It is ideally indicated for control applications, such as coffee and industrial steam-heater control. Valve supplied with three-pole connector (995) - IEC 60440 (24V sample).

DESCRIZIONE PRODOTTO

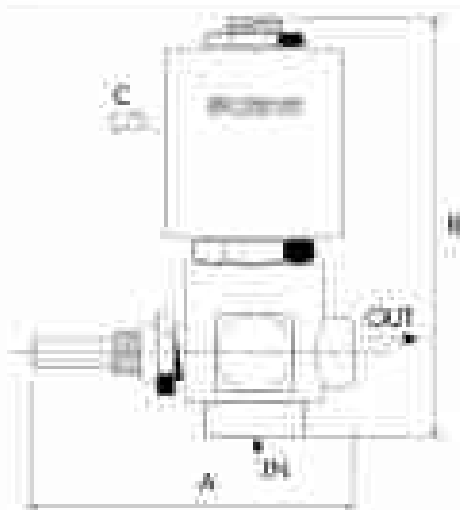
Electrovalvola ad azione diretta con regolazione di portata, 2/2 vie normalmente chiusa. La valvola ha le connessioni a 1/2" e da 1.18". È disponibile con diversi tipi di tenuta. È compatibile con vari tipi di fluidi e applicazioni. Particolarmente indicata per applicazioni nei settori: caffè ed industriali, valvole per riscaldamento. Valvola fornita con connettore a tre poli (995) - IEC 60440 (24V campione).

KEY FEATURES / CARATTERISTICHE PRINCIPALI

Key features / Caratteristiche principali	Body material / Materiale corpo valvola		
Body material / Materiale principale	EPDM	PTFE	Ni 9922
Fluid temp. °C / Temp. fluido °C	125	150	180
Seat material / Materiale tenuta	Various types		
Working fluid / Fluid di lavoro	Air, water, steam, light oil		
Electrical connection / Collegamento elettrico	3-pole cable connector - IEC 60440		
Isolation class / Classe di isolamento	According to EN 10732		
Working range / Ampio utilizzo	90°C		
	Full range / Intervallo completo		
220-240 VAC 50/60 Hz	9922		
110-120 VAC 60 Hz	9922		
120V VCC	9922		

SPECIFICATIONS / CARATTERISTICHE

CONNECTION	ORIFICE Ø (mm)	K _v m³/h	MEDIUM		DEPENDENT WAY			CODE
			AC	DC	A	B	C	
1/4"	2.5	0.125	15	5	15	15	60	9922
1/4"	3.2	0.125	20	5	20	15	60	9922
1/4"	3.2	0.130	4	3	20	15	60	9922
1/4"	3.2	0.130	25	20	30	15	60	9934
1/4"	3.2	0.130	25	5	40	15	60	9934



SERIES 1500

INKJET SOLENOID VALVE DIRECT ACTING 3/2 WAY

Elektronvakuola per jodet og andre gasser 3/2-ve



HIGHLIGHTS

- 15.8/11.0mm – compact
- Constantly within the super class
- Low consumption 100 and 100
- 100 100%
- Direct driving
- A/C
- 100 100%



PRODUCTS & COMPANY

[illegible]

DISCUSSION AND CONCLUSION

La investigación GEM del 2006, con 1000 encuestados, demostró que los consumidores de alimentos orgánicos en los Estados Unidos están dispuestos a pagar entre el 10 y el 20 por ciento más por alimentos orgánicos que los alimentos convencionales. El estudio también encontró que los consumidores de alimentos orgánicos son más conscientes de los riesgos para la salud y el medio ambiente de los alimentos convencionales, y que los consumidores de alimentos orgánicos son más propensos a pagar un precio premium por alimentos orgánicos que los consumidores de alimentos convencionales.



WINTER 1999

Body material / Material code	MS - Prebathplate, Temp. up to 300°C
Seal material / Material description	SS304
Weld joint material / Material description	Stainless steel
Base joint material / Material description	Stainless steel
Flange material / Material code	stainless steel
Spring material / Material code	stainless steel wire
Drive / Drive	1,1kW 230V
Heat exchanger / Heat Exch.	0°C to 400°C 20T to 120T
Heating installation / Temp. controls	0°C to 400°C 20T to 120T
NOFEL process / Process safety	0-8 bar
Cell voltage / Voltage	11.2V DC
Cell power / Electric resistance	100
Installation / Other & comments	11.2V DC up to 1000 M

[illegible]

C TYPE	REFERENCE DESIGN	CCL TYPE		CCL POWER			CONNECTION	
		302	303	3.2 W	3.2 W	3.2 W	1.5A	
 302C CCL								
 303C CCL								



HIGHLIGHTS

- 22 mm - compact
- compatible with all the main inks
- 2 coils: 1.5W and 3.5W
- 100% duty
- Direct acting
- normally closed
- Female and male connections

PRODUCT DESCRIPTION

The CETME inkjet solenoid valve, series 529, has been designed with high quality materials, in order to be compatible with the most common inks for industrial printing applications. They have been also designed considering the most common factory material used on inkjet printers. These valves are compatible with Inkjet Color Xeros, Silver Xeros, Water Based, Effusion, Mattress and Silicone Inkjet. The design of the valve is very compact in order to meet the specific requirements of this market. CETME developed lower coils in order to allow high quality and low frequency signals. The life expectancy is over 12 million cycles.

DESCRIZIONE PRODOTTO

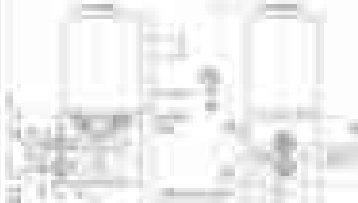
Le elettrovalvole CETME per inkjet serie 529, sono valvole a 2/2 vie ad azione diretta, realizzate con materiali a alta qualità per poter essere compatibili con tutti gli inchiostri che si trovano sul mercato. Sono inoltre state studiate tenendo presente la compatibilità con i materiali più comuni usati per stampare inkjet: Inkjet Color Xeros, Silver Xeros, Water Based, Effusion, Mattress and Silicone Inkjet. La progettazione della valvola è molto compatta al fine di poter soddisfare le specifiche esigenze di questo mercato. CETME ha sviluppato bobine a bassa potenza per poter inviare segnali di alta qualità e a bassa frequenza. La vita utile è superiore ai 12 milioni di cicli.



GENERAL MATCHES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	PCPP
Seat material / Materiale guarnizione	SS316
Armature tube material / Materiale armatura	stainless steel
Body nut material / Materiale corpo file	stainless steel
Washer material / Materiale anello	stainless steel
Seal material / Materiale sigillo	stainless steel ring
2/2 way / 2/2 vie	1/8" BSP - 1/8" NPT
MOORESONE Compatible Model	4.0001 (0.0175")
Coil voltage / Voltaggio	24 V DC
Coil power / Potenza bobina	1.5W, 3.5W
Coil terminal / Terminale bobina	0.0818532
Response time / Tempo di risposta	100ms
Insulation class / Classe di isolamento	Classifying in EN 60739
Maximum temperature / Temperatura massima	400°C / 760°F
Body terminal plug / Connettore corpo	1/8" - 1/8" NPT

SPECIFICATIONS / CARATTERISTICHE

CODE	REFERENCE WITH 12	SIZE (mm)	2/2 WAY		COIL POWER				CONNECTION	
			25	22	1.5 W	3.5 W	1 W	1 W	COIL	TERMINAL
 52900N15P0023		22		-		-	-	-	100% HEATED	MALE
 52900N15P0025		22		-		-	-	-	90% HEATED	FEMALE

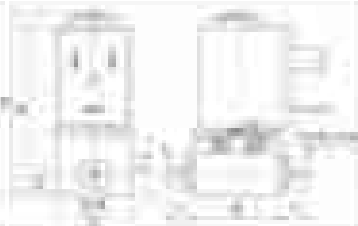
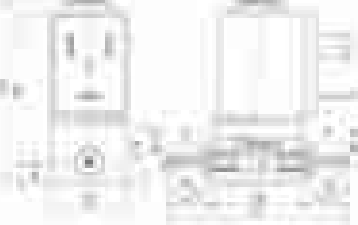
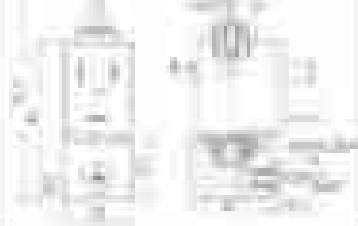
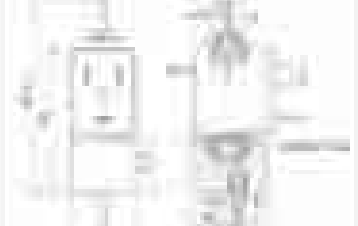
SERIES 529

INKJET SOLENOID VALVE DIRECT ACTING 2/2 WAY

Electrovalvola per inchiostro ad azione diretta 2/2 vie



SPECIFICATIONS / CARATTERISTICHE

CODE	INKJET DEVICE	SIZE mm	WAY TYPE		COIL POWER				CONNECTIONS	
			20	30	2.5 W	3.5 W	2 W	1 W		
 S290N11P003		20	NC	NC	NC	NC	NC	NC	NC	NC
 S290N11P005		20	NC	NC	NC	NC	NC	NC	NC	NC
 S290N11P006		20	NC	NC	NC	NC	NC	NC	NC	NC
 S290N11P007		20	NC	NC	NC	NC	NC	NC	NC	NC
 S290N11P008		20	NC	NC	NC	NC	NC	NC	NC	NC
 S290N11P009		20	NC	NC	NC	NC	NC	NC	NC	NC



HIGHLIGHTS

- 22 mm - compact
- compatible with all the main INKs
- 2 coils: 7.5W and 3.5W
- 100% duty
- Direct acting
- normally closed
- Female and male connections

PRODUCT DESCRIPTION

The CETME inkjet (named series) model 539 is a 3/2 way direct acting valve with 1 coil, been designed with high quality materials, in order to be compatible with the most common INKs for industrial printing solutions. They have been also designed considering the most common flushing media used in inkjet systems. These valves are compatible with UV Inkjet, White Inkjet, (Pigment Inkjet), Solvent Inkjet, PP Inkjet, Mylar Inkjet and Acrylic Inkjet (max 40°C). The design of the valve is compact in order to meet the space requirements of the market. CETME cannot guarantee both, it tried to design high quality level and maximum reliability. The life expectancy is over 12 million cycles.

DESCRIZIONE PRODOTTO

La valvola CETME per inkjet serie 539, con valvola a 1 vie ad azione diretta, realizzata con materiali di alta qualità per poter essere compatibile con tutti i colori inkjet per stampanti industriali. Sono state studiate soluzioni tecniche avanzatissime e affidabili per poter essere compatibile con tutti i colori inkjet industriali. Questa valvola è adatta anche per stampanti con tecnologia max 40°C, solvente, acqua, pigmento, PP, Mylar e Acrilico (max 40°C). La valvola è molto compatta per poter essere inserita negli spazi richiesti dal mercato. CETME non può garantire sia, ha cercato di progettare un prodotto di alta qualità e massima affidabilità. La vita media di vita è superiore ai 12 milioni di cicli.



GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale corpo	PPSU
Seat material / Materiale guarnizione	PTFE
Oration tube material / Materiale connettore	Stainless steel
Seat port material / Materiale morsetto	Stainless steel
Washer material / Materiale anello	Stainless steel
Spring material / Materiale molla	Stainless steel wire
Stroke / Corsa	1.5 mm / 0.06 in
Min. pressure / Pressione min.	0.7 bar / 0.101 MPa
Coil voltage / Voltaggio	24 VDC
Coil power / Potenza bobina	7.5 W, 3.5 W
Coil terminal / Terminali bobina	SW 40018
Rated flow rate / Portata nominale	100 ml
Pressure class / Classe di pressione	1) according to EN 10732
Medium temperature / Temperatura ambiente	40°C / 104°F
Fluid temperature / Temperatura fluido	40°C / 104°F

APPLICATIONS / CARATTERISTICAL

CODE	REFERENCE DETAIL	SIZE (mm)	VAL TYPE		COIL RANGE				COIL TYPE	
			2C	3C	7.5 W	3.5 W	7 W	3 W	SW 40018	SW 40019
539000000000		22	-	-	-	-	-	-	SW 40018	SW 40019

SERIES 539

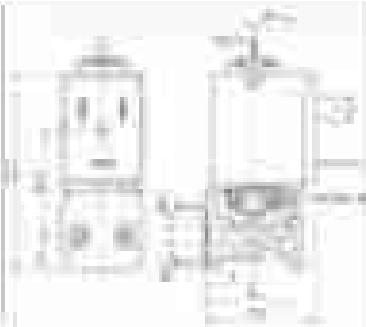
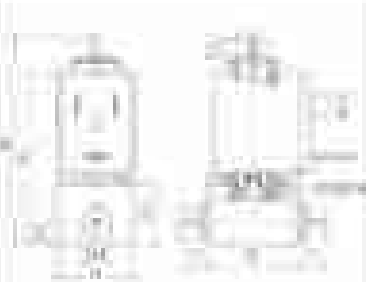
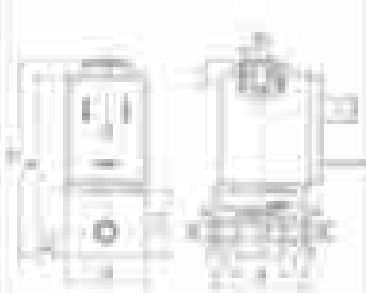
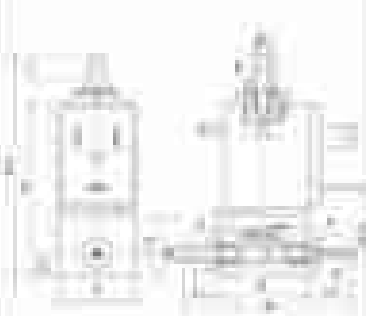
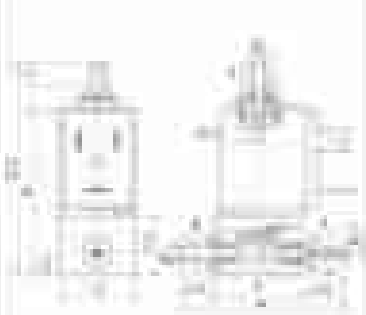
INJECT SOLENOID VALVE DIRECT ACTING 3/2 WAY

Electrovalvola per iniezione ad azione diretta 3/2 vie



Series 539

SPECIFICATIONS / CARATTERISTICHE

CODE	INTERNAL DEVICE	SIZE [mm]	WAY TYPE		COIL POWER				CONNECTIONS	
			2/2	3/2	1.5 W	2.5 W	2 W	1 W		
 S050M16PA02		16	-	NC	NC	-	-	-	1/4" BSP	1/4" BSP
 S050M20PA03		20	-	NC	NC	-	-	-	1/4" BSP	1/4" BSP
 S050M25PA03		25	-	NC	NC	NC	-	-	1/4" BSP	1/4" BSP
 S050M32PA03		32	-	NC	NC	-	-	-	1/4" BSP	1/4" BSP
 S050M40PA03		40	-	NC	NC	NC	-	-	1/4" BSP	1/4" BSP

HIGHLIGHTS

- 3/2 way solenoid operated
- Tap water
- Internal filter (very effective)
- Low water footprint

PRODUCT DESCRIPTION

The new CETME Solenoid Pilot is a 3/2 way solenoid operated valve for Ø 11 mm. The main application is mechanically actuated, battery driven valves. The hydraulic and mechanical concept has been developed according to long-term performance, durability and safety for a variety of targets. All the materials are certified with the most regulations in drinking water applications.

DESCRIZIONE PRODOTTO

La nuova valvola piloti di CETME è una 3/2 vie, azionata elettricamente, Ø 11 mm. L'applicazione principale è valvola azionata elettricamente che è azionata elettricamente. La concezione idraulica e meccanica è stata sviluppata secondo le esigenze per garantire una prestazione duratura e la sicurezza della valvola lungo tutta la sua vita operativa. Tutti i materiali sono certificati con le norme più rigorose in materia di acqua potabile.

GENERAL FEATURES / CARATTERISTICHE GENERALI

Long life material / Materiale di lunga durata

Internal filter (very effective) / Filtro interno (molto efficace)

Low water footprint / Basso consumo d'acqua

Low power consumption / Basso consumo elettrico

Good certified / Buone certificazioni

100% WATER proof design and not damaged with high pressure

Suitable for chemical distribution (Chlorine as well as chemical disinfection)
 Adatto per distribuzione chimica (Cloro e disinfezione chimica)

MATERIALS MATERIALI

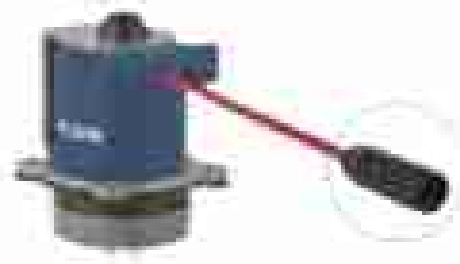
Hydraulic Tube / Carotaggio	BRASS 304/316
SPRING / SPRING / SPRING / SPRING	All the parts are in 304/316 or 316L Tutti i componenti sono in 304/316 o 316L
Other / Altri	Sealed steel fitting and fitting cone (in plastic free material needed)
Internal separator / Divisorio interno	PTFE, PTFE / PTFE, PTFE / PTFE
Connector / Connettore	Factor in PPS (polypropylene) - Factor in PPS (polypropylene)

WORKING CHARACTERISTICS / CARATTERISTICHE DI LAVORO

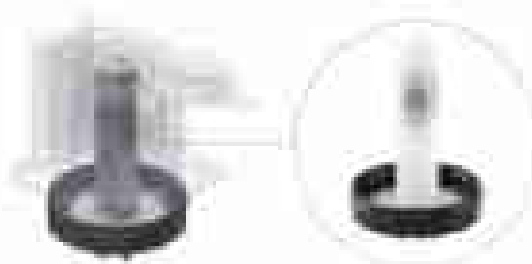
Working pressure / Pressione di lavoro	0.7 - 10.0 bar (1.02 - 14.5 MPa) max. in water / acqua fredda
Working time / pressure of spring	According to EN8770 / Secondo EN8770
Water Material / Carta d'acqua	According to EN8770 / Secondo EN8770
Flow direction / Direzione del flusso	Unidirectional / Unidirezionale
Valve position / Posizione della valvola	Any position / Qualsiasi posizione
Working fluid / Fluido di lavoro	Tap water / Acqua di rubinetto
Maximum temp / Temperature max	Maximum temp 85 °C (185 °F) / Temperature max 85 °C (185 °F)
Min Temp / Temperature Min	2° - 40°C (32°F - 104°F)
Max Temp / Temperature max	2° - 40°C (32°F - 104°F)

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IPES connector (detailing)



Internal Filter Patching



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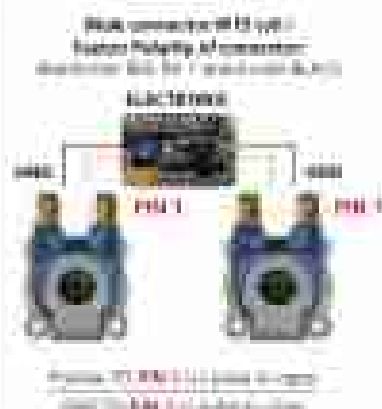
Cell power (Battery nominal)	4.2V 3.7V	1.5V	1.2V	0.2V	0V	0.5V	1.5V
Operating Voltage (Biosensor @ 1000Hz/1000Hz)	1.2V/1.2V	1.2V/1.2V	1.2V/1.2V	0.2V	0V	0.5V	1.5V/1.5V
IR				0.2V			

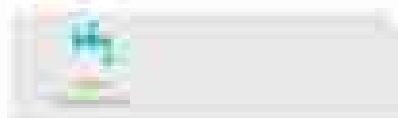
Citation: [Bullard et al., 2019](#), [https://doi.org/10.7554/mbe.06892](#)

Cell power / Battery nominal	3.7V (3.8V)
Operating voltage / Nominal of Rechargeable	6V (5.4V at 25°C)
Max. charge current / Charging max. time	12V
Nominal Current / Nominal capacity	10V 4.0 (at 25°C)
Power input / Output of module	Class 1, 100W / 100W (100W)

100

Self-heal / Fast & reliable	Applicable to DC and / Applicable to battery or DC
Installation time / Easy to implement	1
Reliable voltage / Stable frequency	See table DC and battery capacity system OK
Operating voltage / large range between 40 and 60Vdc	Nominal voltage of 40V / Between modules of 15V
Rated power / Capacity in place	Low power Support of 100W High power From 100W High cell with MONET Voltage related nominal voltage 10V, 15V 100W Standard voltage for Maintenance voltage for 12V < 13.5V
Dimensional rating / grade of components / cooling	PMU
Reliable voltage / common usage / equipment	The equipment requires a 500W battery DC 500W between 100 and 1000 Wh/kg
Reliable efficiency / Stable efficiency	Efficiency between 90% and 95% depending on the battery technology AC/DC 100% for 1, 2 and 3 phase AC/DC





HIGHLIGHTS

- Pilot
- Tap Water

PRODUCT DESCRIPTION

The new CETME latching solenoid pilot is a 2/2 way direct pilot valve for flush systems. The main application is electrolytic cathodic, battery driven systems. The hydraulic and mechanical concept has been developed considering prompt performance, durability and long life in green targets. All the models are compliant with the main regulations for drinking water applications.

DESCRIZIONE PRODOTTO

Il nuovo pilota a solenoide latching CETME è un pilota ad azione diretta a 2/2 vie per sistemi a lavaggio. L'applicazione principale è elettrolitica, a batteria, elettrolisi. Il concetto idraulico e meccanico è stato sviluppato considerando le prestazioni, la durata e la lunga vita in verde. Tutti i modelli sono conformi alle principali regolamentazioni per applicazioni di acqua potabile.

CRUCIAL FEATURES / CARATTERISTICHE SINGOLARI

Long life material / Materiali di lunga durata
Low power consumption / Basso consumo
Direct action / Azione diretta
100% protection water and air / 100% protezione acqua e aria
Suitable for chemical electrolytic / Adatto per elettrolisi chimica / Adatto per elettrolisi chimica / Adatto per elettrolisi chimica



MATERIALS / MATERIALI

Hydraulic Tube / Cavetto	Stainless steel
EPDM gasket / O-ring / EPDM gasket	All the parts are in EPDM or LSR. This requirement does not apply to LSR.
Other / Altri	Stainless steel (spring and pin) / Acciaio inossidabile (molla e perno)
Material / Materiali	SSW, SSN, TN, ACS, NSE, OBRN

WATER LATCHING PILOT V700
LATCHING SOLENOID PILOT FOR Ø 2,5 mm max
Valvola Pilotata per ØN 2,5 mm max

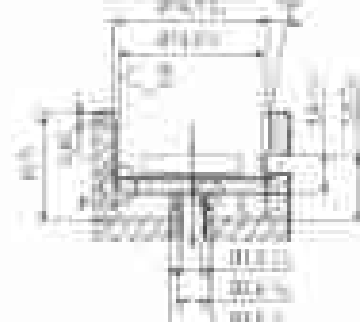
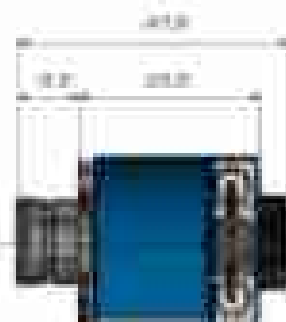
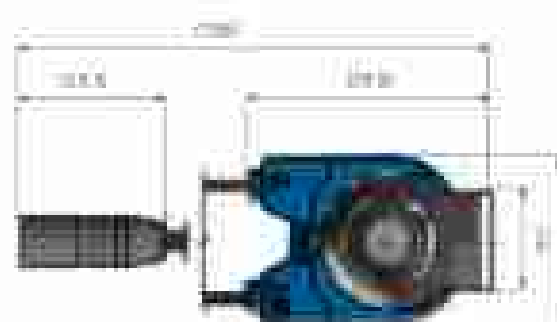
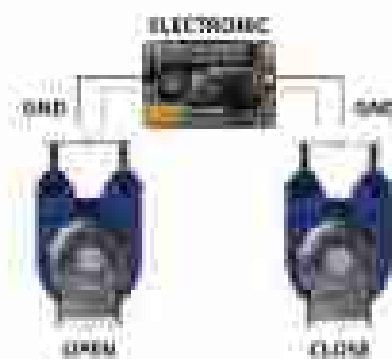


WORKING CHARACTERISTICS / CARATTERISTICHE DI LAVORO

Working pressure / Pressione di lavoro	0 - 8 bar (0 - 115 PSI)
Pressure test / Pressione di prova	According to EN10732 / Secondo EN10732
Body material / Corpo in acciaio	According to EN10732 / Secondo EN10732
Flow direction / Direzione del flusso	Unidirectional / Unidirezionale
Valve position / Posizione della valvola	Weg profile / Qualità superiore
Working type / Tipo di lavoro	Tap water / Acqua di rubinetto
Power supply / Alimentazione / Filter Alimentazione / Filtrazione / Impulsi	6V / 2500 1750mAh (single) / 1500mAh (2x) 6V / 2500 1750mAh (single) / 1500mAh (2x)
Protection class / Classe di protezione	II according to EN 60529 / II secondo la norma EN 60529
Max Temp / Temperatura (C°)	0° - 50°C (32° - 122° F)
Ambient Temp / Temperatura ambiente	0° - 50°C (32° - 122° F)

ELECTRICAL SPECIFICATIONS / LATCHING - UNIDIRECTIONAL TECHNICAL LATCHING

Electrical Connection / Collegamento elettrico	Wired with Connector / Collegare con connettore
Nominal power / Potenza nominale	100W (250)
Operating Voltage / Tensione di Alimentazione	6V (Direct) at 20°C
Max Voltage Input / Tensione massima	6V
Rated Current / Corrente nominale	165 mA (at 6V 20°C)
Rated time / Tempo di impulso	Open max 15ms / Richiama max 75ms



**HIGHLIGHTS**

- 2/2 way valve (normally closed)
- 0.3 - 10 bar
- Compact design
- Hydraulic body valve in brass or iron
- Latching version also available with cable connector

PRODUCT DESCRIPTION

The new CETME Water Series for water management (marked in blue) was specifically designed for water applications. The main application is water control, allowing precise supply control. Thanks to the flow rate optimization, the 2/2 way can meet all the control system requirements, while ensuring the valve has efficient and attractive water control in the water transport. The new valve has the same at the top level. The hydraulic and mechanical concept has been developed combining long terms of performance and quality.

DESCRIZIONE PRODOTTO

La nuova serie Water Series (in blu) è stata progettata specificamente per applicazioni di gestione dell'acqua. L'applicazione principale è il controllo preciso dell'acqua, consentendo un controllo preciso e costante. Grazie all'ottimizzazione della portata, il 2/2 way è in grado di soddisfare tutti i requisiti dei sistemi di controllo, assicurando al contempo un controllo efficiente e attraente dell'acqua nel trasporto dell'acqua. La nuova valvola ha lo stesso livello superiore. Il concetto idraulico e meccanico è stato sviluppato combinando i migliori aspetti di performance e qualità a lungo termine.

**GENERAL FEATURES / CARATTERISTICHE GENERALI**

Long life service / Manutenzione lunga durata

External flow rate valve / Flusso esterno regolabile

Very compact design / Design molto compatto

Low power consumption / Basso consumo energetico

Series certified / Serie certificata

100% tested with water and air / Testato 100 % con acqua e aria

Ø 1/2 inch, 3/4 inch / Grade 15, 20, 30

Exceeds the standard according to EN ISO 5211 and EN ISO 5212

Adatto per le applicazioni critiche di acqua e aria (serie a certificazione ISO 9001)

MATERIALS / MATERIALI

Body material / Materiale corpo

EN 10217-2

COIL / COIL / COIL / COIL / COIL

40-100 W (max) / 100-150 W (max) / 150-200 W (max) / 200-250 W (max) / 250-300 W (max)

Spring / Molla

Stainless steel

Seal / Seal / Seal / Seal / Seal

EPDM, NBR, PTFE, PEEK

WORKING CHARACTERISTICS / CARATTERISTICHE DI LAVORO

Working pressure / Pressione di lavoro

0.3 - 10 bar

Pressure class / Pressione di progetto

According to EN 10211 / secondo EN 10211

Flow direction / Direzione di flusso

According to EN 10211 / secondo EN 10211

Flow direction / Direzione di flusso

According to EN 10211 / secondo EN 10211

Flow direction / Direzione di flusso

According to EN 10211 / secondo EN 10211

Working fluid / Fluido di lavoro

Tap water / Acqua di rubinetto

Regulation class / Classe di regolazione

H according to EN 10211 / secondo EN 10211

Body Temp / Temperatura corpo

0° - 80°C (32° - 176°F)

Ambient Temp / Temperatura ambiente

0° - 80°C (32° - 176°F)

ELECTRICAL SPECIFICATIONS / SPECIFICHE ELETTRICHE

Electrical Connection / Connessione elettrica	Table 1.3a & 1.3b: power supply 50/60 Hz						
Cat power / Potenza nominale	12VA / 12W	5.5W	1.5W	12VA	7W	4.5W	2.5W
Operating voltage / Tensione di funzionamento	10-140V	12Vdc	24Vdc/24V	12Vdc	24Vdc	24Vdc	110/120V
IP	IP65						

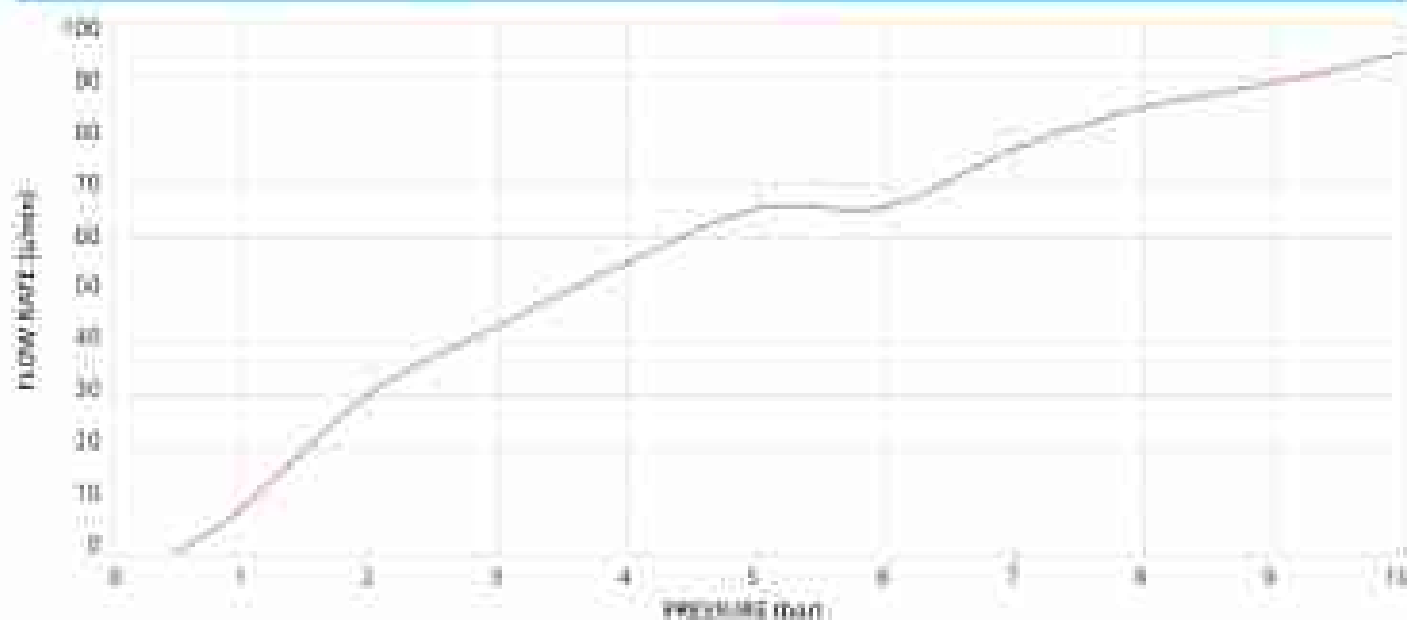
ELECTRICAL SPECIFICATIONS LOGGING / SPECIFICHE ELETTRICHE LOGGING

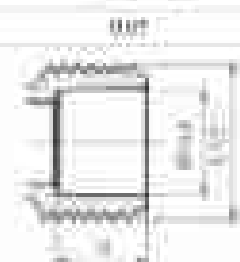
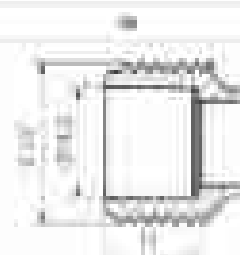
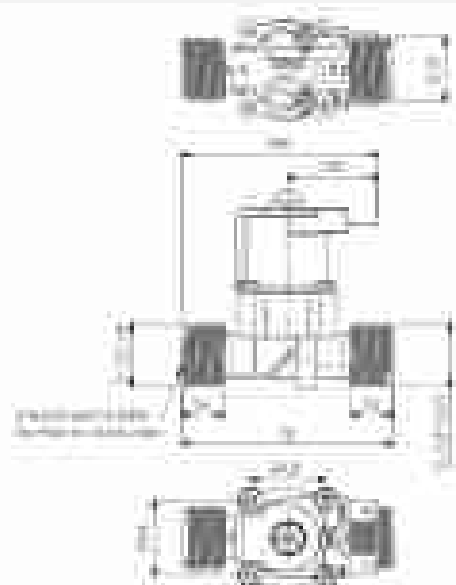
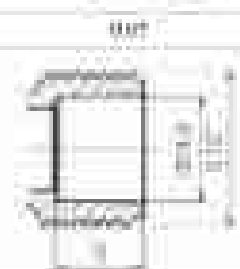
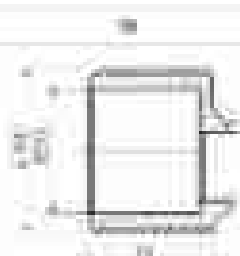
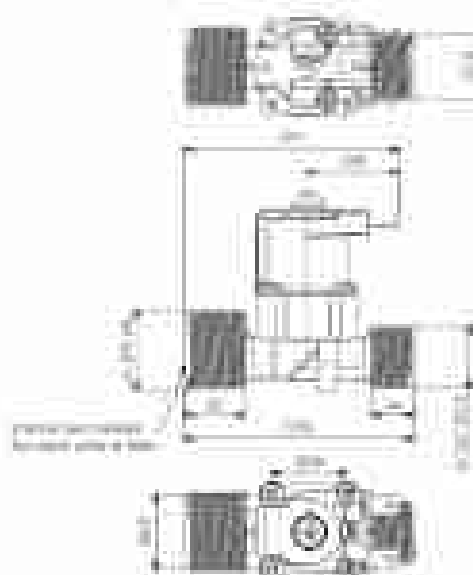
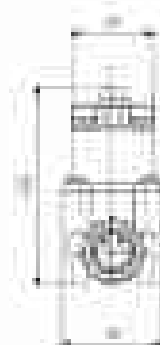
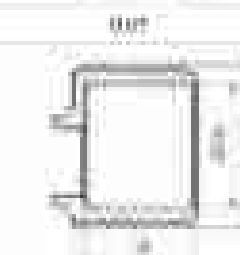
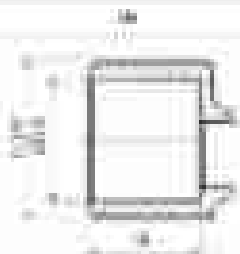
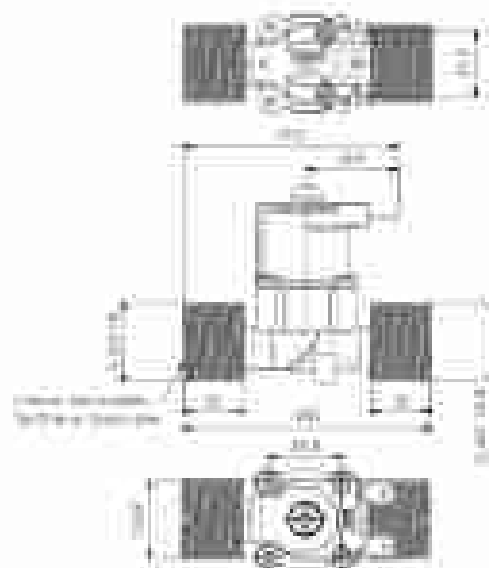
Electrical Connection / Connessione elettrica	Not available with connector, with cable (1) / Non disponibile con connettore, a filo (1)
Cat power / Potenza nominale	12VA (10W)
Operating voltage / Tensione di funzionamento	10-140Vdc at 20° C
Max battery supply / Tensione massima	12V
Maximal current / Corrente nominale	875 mA at 12V D.C.
Fail mode / Modalità di errore	Close with 15s / Open with 15s

SPECIFICATIONS / CARATTERISTICHE

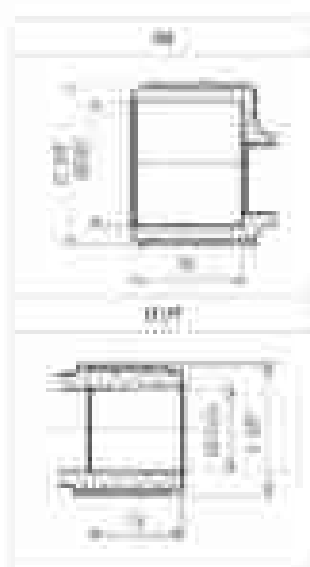
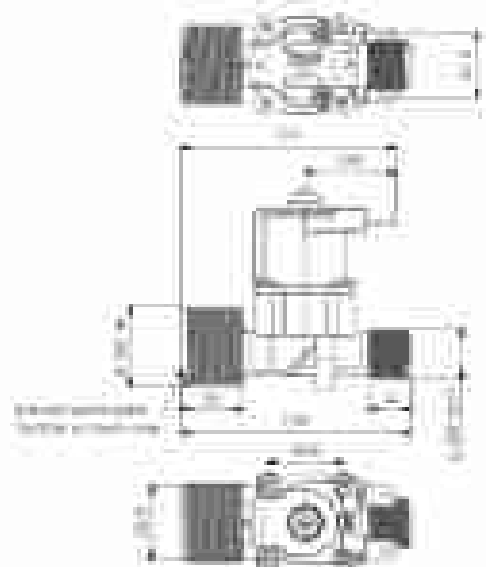
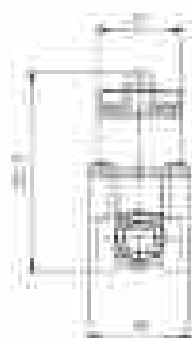
CONNECTION	DN (mm)	Pressure (bar)		Flow
		Min	Max	
G 1/2" - PT 1/2"	15	0.1	10	✓
G 3/4" - PT 3/8"	15	0.1	10	✓
G 1" - PT 1/2"	15	0.1	10	✓
G 1 1/4" - PT 3/4"	15	0.1	10	✓
G 1 1/2" - G 1"	15	0.1	10	✓
G 1 1/2" - G 1 1/4"	15	0.1	10	✓
G 1 1/2" - G 1 1/2"	15	0.1	10	✓
G 1 1/2" - G 1 1/2"	15	0.1	10	✓
G 1 1/2" - G 1 1/2"	15	0.1	10	✓
G 1 1/2" - G 1 1/2" 40°	15	0.1	10	✓
G 1 1/2" - G 1 1/2" 40°	15	0.1	10	✓
PT 1/2" - PT 1/2"	15	0.1	10	✓
PT 1/2" - PT 1/2"	15	0.1	10	✓
PT 1/2" - PT 1/2"	15	0.1	10	✓
PT 1/2" - PT 1/2"	15	0.1	10	✓
PT 1/2" - PT 1/2"	15	0.1	10	✓

HYDRAULIC CHARACTERISTICS / CARATTERISTICHE IDRAULICHE

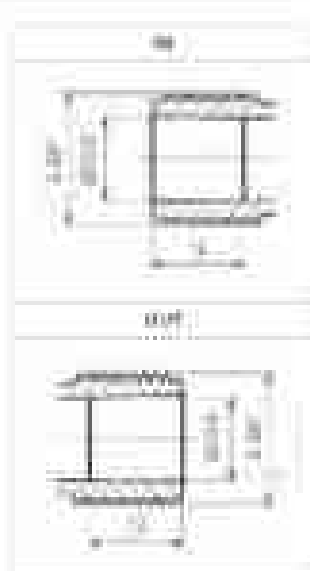
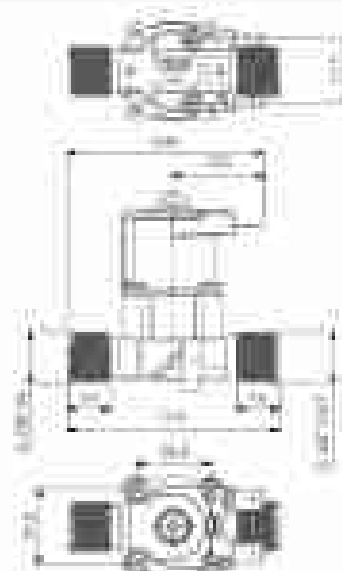
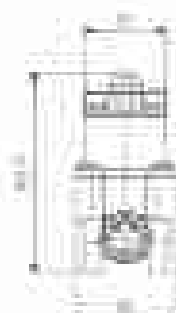


SERIES W80 - 1/2" M - 1/2" M

SERIES W80 - 3/4" M - 1/2" M

SERIES W80 - 3/4" M - 3/4" M


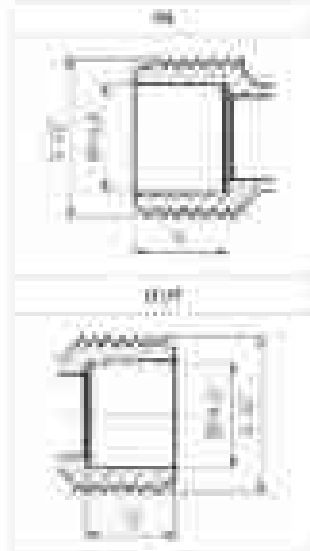
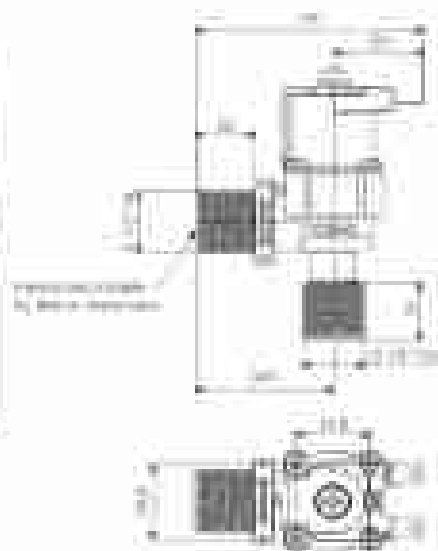
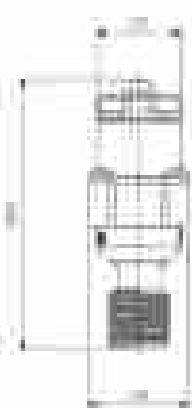
SERIES WAC - 2/4" M - 1/2" M

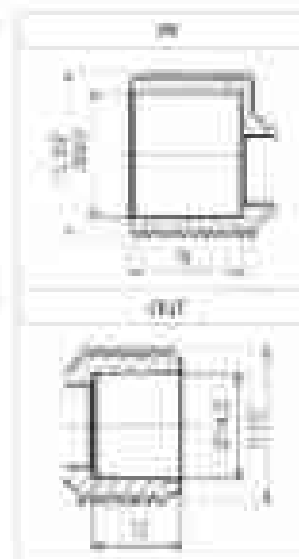
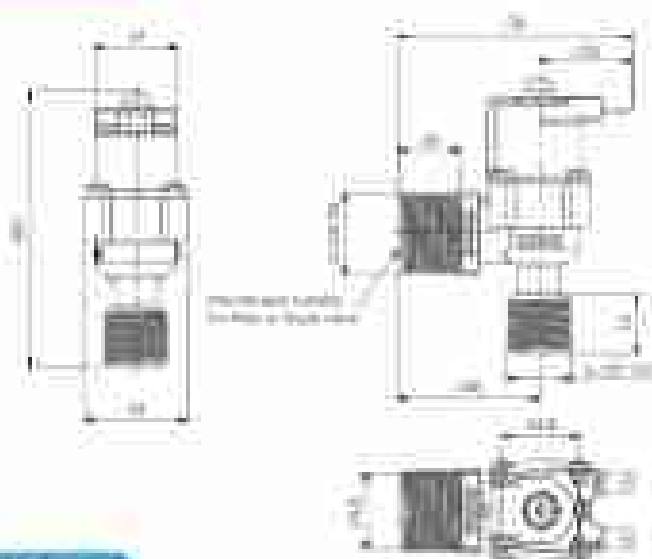
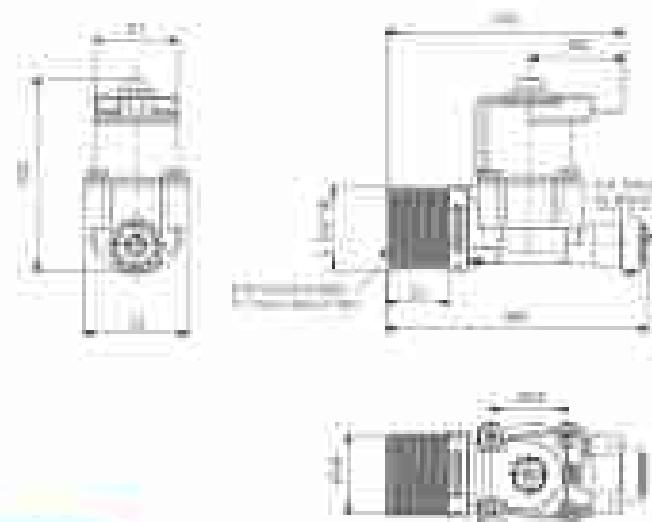
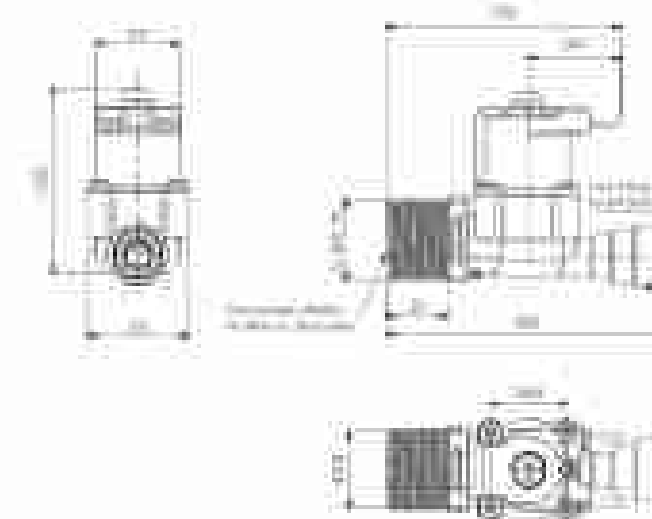


SERIES WCC - 3/4" M - 1/2" M



SERIES WFF - 1/2" M - 1/2" M 90°

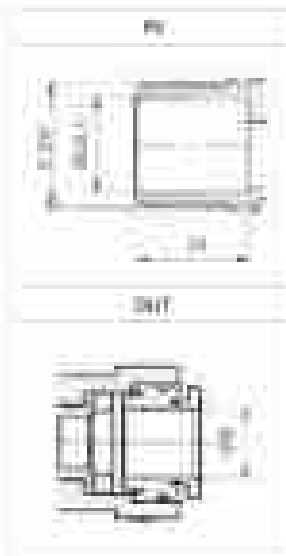
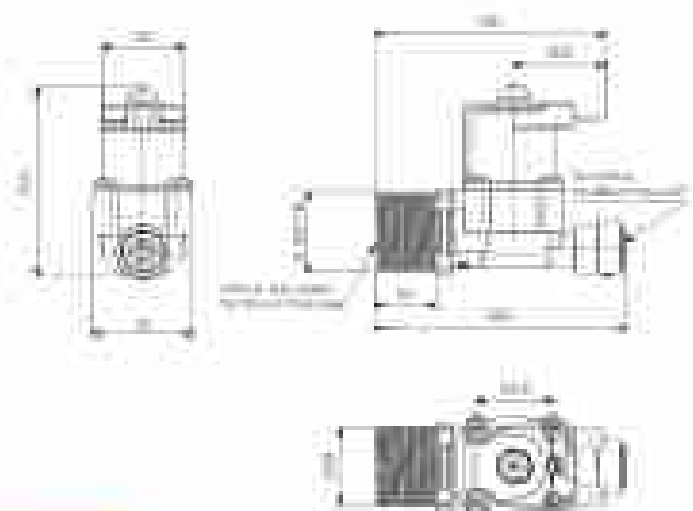


SERIES W101 - 3/4" NPT - 1/2" NPT

SERIES W12 - 3/4" NPT - 1/2" NPT

SERIES W23 - 3/4" NPT - 1/2" NPT


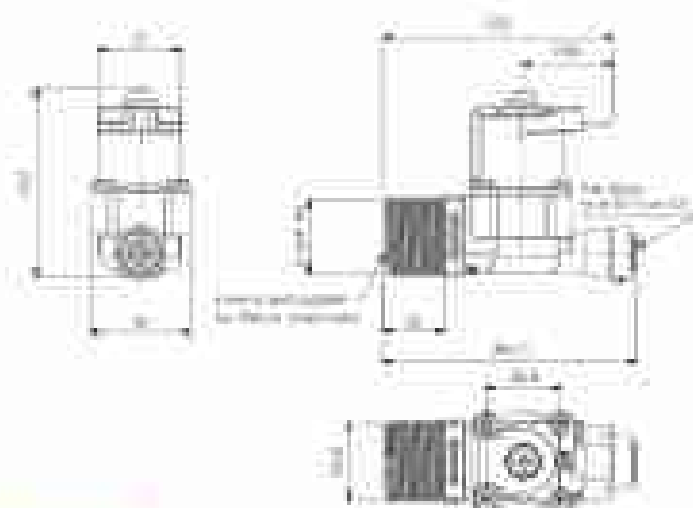
WATER VALVE
WATER SERIES SOLENOID VALVE
Electrovalvola serie Water



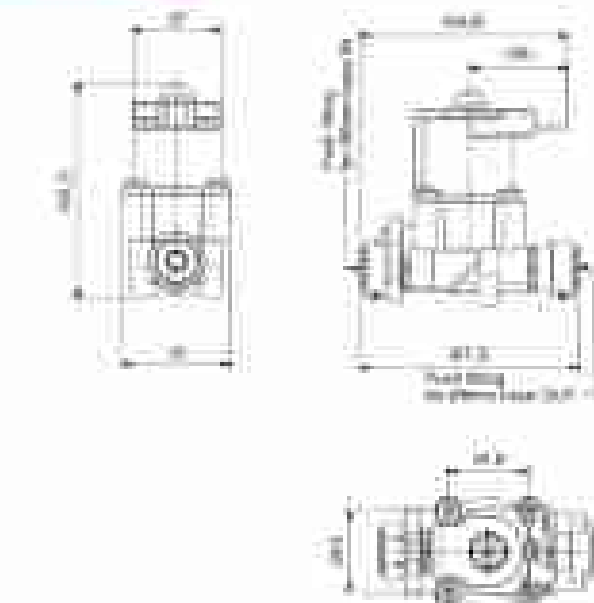
SERIES W24 - 3/4" NPT / PN16mm

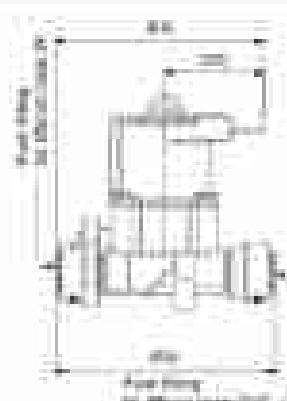
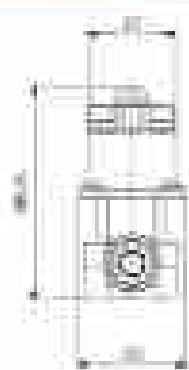


SERIES W27 - 1" NPT / PN16mm

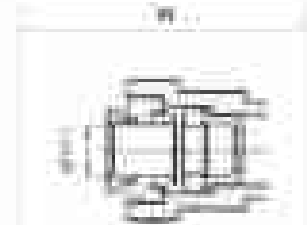
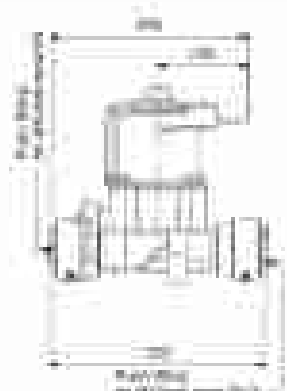
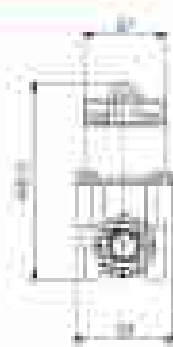


SERIES W11 - PN06mm / PN06mm

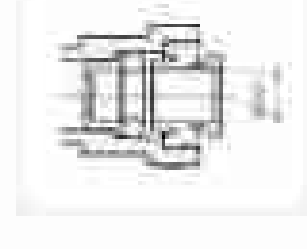
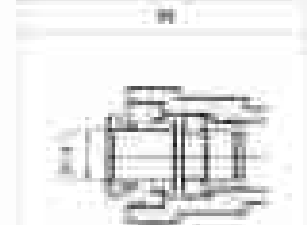
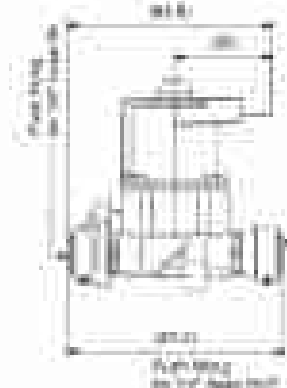


SERIES VMM - PROMM / PROMM


100


SERIES WM - PROMM / PROMM


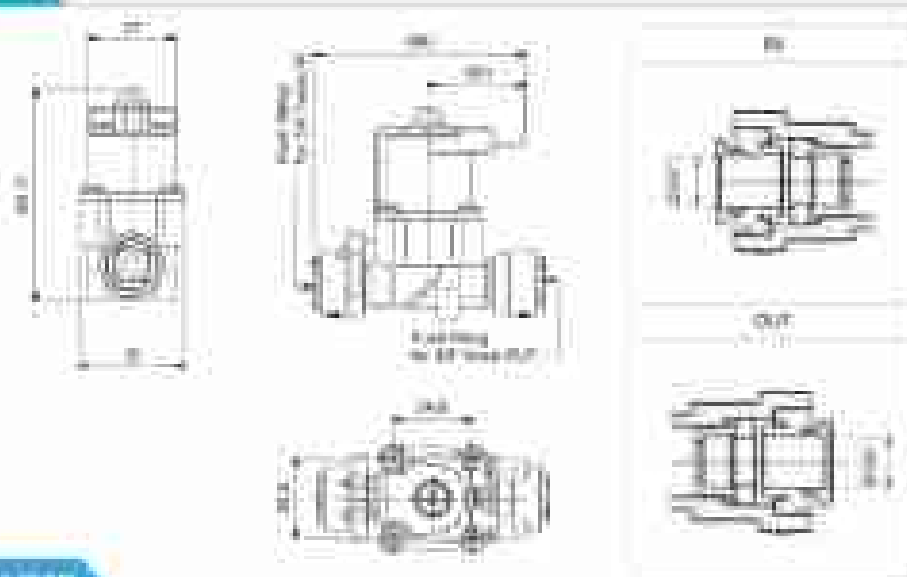
100


SERIES WMP - PRO1/2" / PRO1/2"


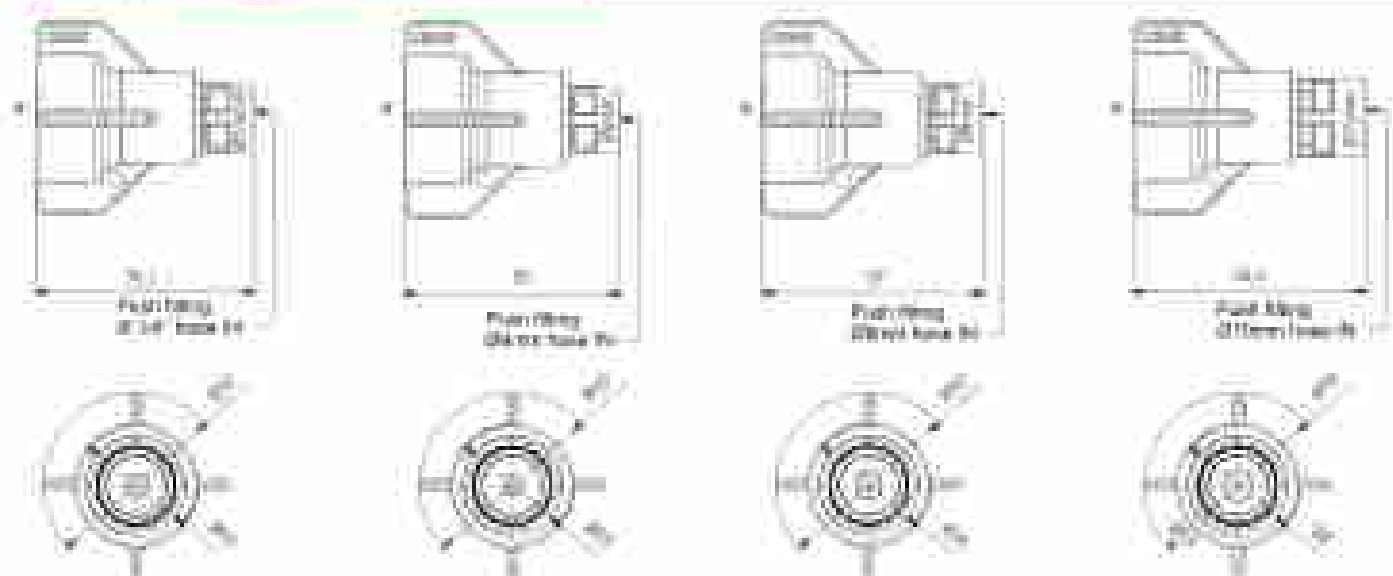
100



SERIE VWR - PWR30 / PWR30Y

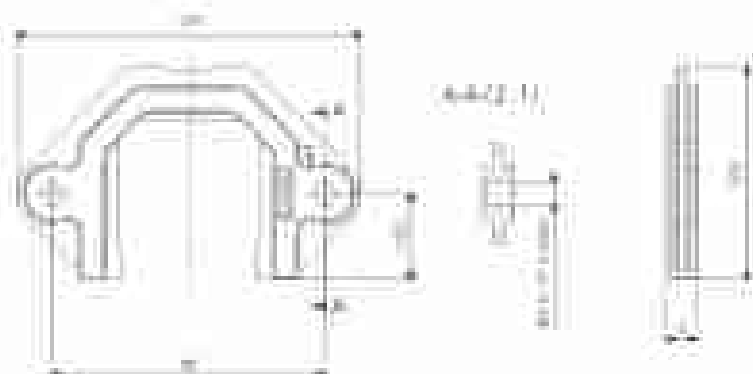


RACCOMANDO IT - G 3/4" / OIL / OIL / 2518



• 2518" body 3/4"
 Vertical and lateral 1/2" (3/4" and 1/2")

MOUNTING BRACKET



The mounting bracket can be mounted upon request together with the water valve and it is suitable for the following series:
 WY1 - WY2 - WY3 - WY4 - WY5 - WY6 - WY7 - WY8 - WY9 - WY10 - WY11 - WY12 - WY13 - WY14 - WY15 - WY16 - WY17 - WY18 - WY19 - WY20 - WY21 - WY22 - WY23 - WY24 - WY25 - WY26 - WY27 - WY28 - WY29 - WY30 - WY31 - WY32 - WY33 - WY34 - WY35 - WY36 - WY37 - WY38 - WY39 - WY40 - WY41 - WY42 - WY43 - WY44 - WY45 - WY46 - WY47 - WY48 - WY49 - WY50 - WY51 - WY52 - WY53 - WY54 - WY55 - WY56 - WY57 - WY58 - WY59 - WY60 - WY61 - WY62 - WY63 - WY64 - WY65 - WY66 - WY67 - WY68 - WY69 - WY70 - WY71 - WY72 - WY73 - WY74 - WY75 - WY76 - WY77 - WY78 - WY79 - WY80 - WY81 - WY82 - WY83 - WY84 - WY85 - WY86 - WY87 - WY88 - WY89 - WY90 - WY91 - WY92 - WY93 - WY94 - WY95 - WY96 - WY97 - WY98 - WY99 - WY100



HIGHLIGHTS

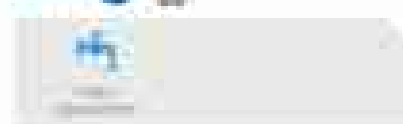
- 20" and 77" max controlled
- 0.5 - 8 bar (0.5 - 10 bar max tested)
- Tap water
- Compact design
- Body made in PPS

PRODUCT DESCRIPTION

The new CETME latching valve for sanitary market is a 20" and 77" max controlled valve with 0.5 bar. The main application is electronically controlled sanitary filling, both battery-driven latching WCT and power supply (24V DC). Thanks to the flow rate optimization, the 20" max can meet all the sanitary tank requirements. While shrinking the valve, our efforts and attention were focused on the water hammer. The test results show the value of the tap back. The hydraulic and mechanical concept has been developed considering optimum performance, durability, and safety for a sanitary system. All the models are compliant with the main regulations in drinking water applications.

DESCRIZIONE PRODOTTO

La nuova elettrovalvola (EAV) per il mercato sanitario è una 20" max e 77" max, controllata da rete (24V DC) e a batteria. L'applicazione principale è naturalmente quella elettromeccanica per il riempimento e la chiusura latching. Grazie all'ottimizzazione della portata, la 20" max può soddisfare tutti i requisiti di tutti i serbatoi. Durante la progettazione, i nostri sforzi sono stati concentrati su un unico punto: la riduzione della portata. I test hanno dimostrato che il valore di ritorno è molto basso. Il concetto idraulico e meccanico è stato sviluppato considerando le migliori prestazioni, durata e sicurezza per un sistema sanitario. Tutti i modelli sono conformi alle principali normative in vigore per le applicazioni di acqua potabile.



TECHNICAL FEATURES / CARATTERISTICHE TECNICHE

Long life material / Materiali a lunga durata

Environmentally friendly / Materiali a ridotto impatto ambientale

Very compact design / Design molto compatto

Low power consumption / Basso consumo energetico

Tap water / Acqua potabile

20" max with water and air / 20" max (0.5 bar) acqua e aria

PPS body / Corpo in PPS

Suitable for thermal disinfection / Adatto anche per la disinfezione termica

Adatto per la disinfezione chimica / Adatto anche per la disinfezione chimica

MATERIALS / MATERIALI

Body material / Materiale corpo

PPS / PPS

Tap body / Guarnizione EAV

40-50 mm max for liquid media (water) / 40-50 mm max per mezzo liquido (acqua)

Steel / Acciaio

Stainless steel (body and gasket) / In acciaio inox (corpo e guarnizione)

Electrical equipment / Equipaggiamento elettrico

20A, 24V/1A, 40°C, 100% RH, 50/60Hz, 50/60Hz

SANITARY

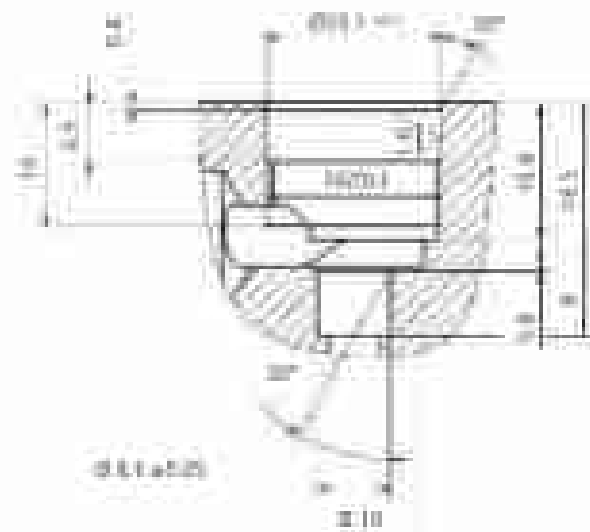
LATCHING SOLENOID VALVE FOR SANITARY APPLICATIONS

Electrovalvola latching per sanitario

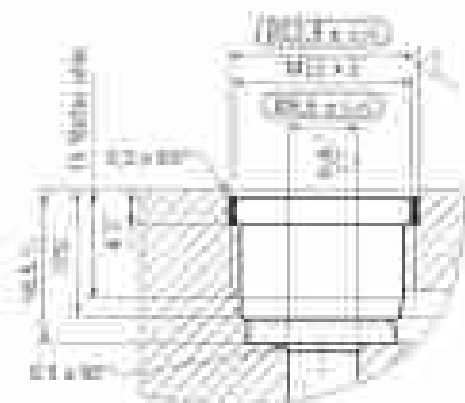
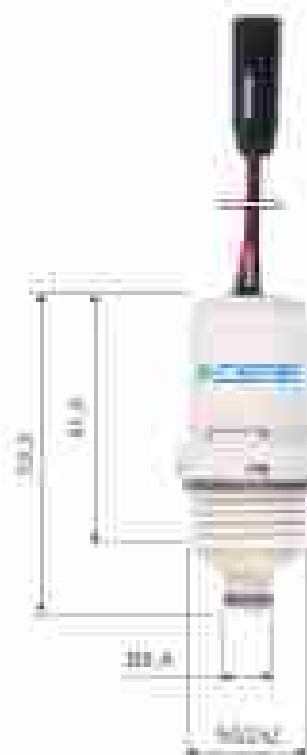


SANITARY

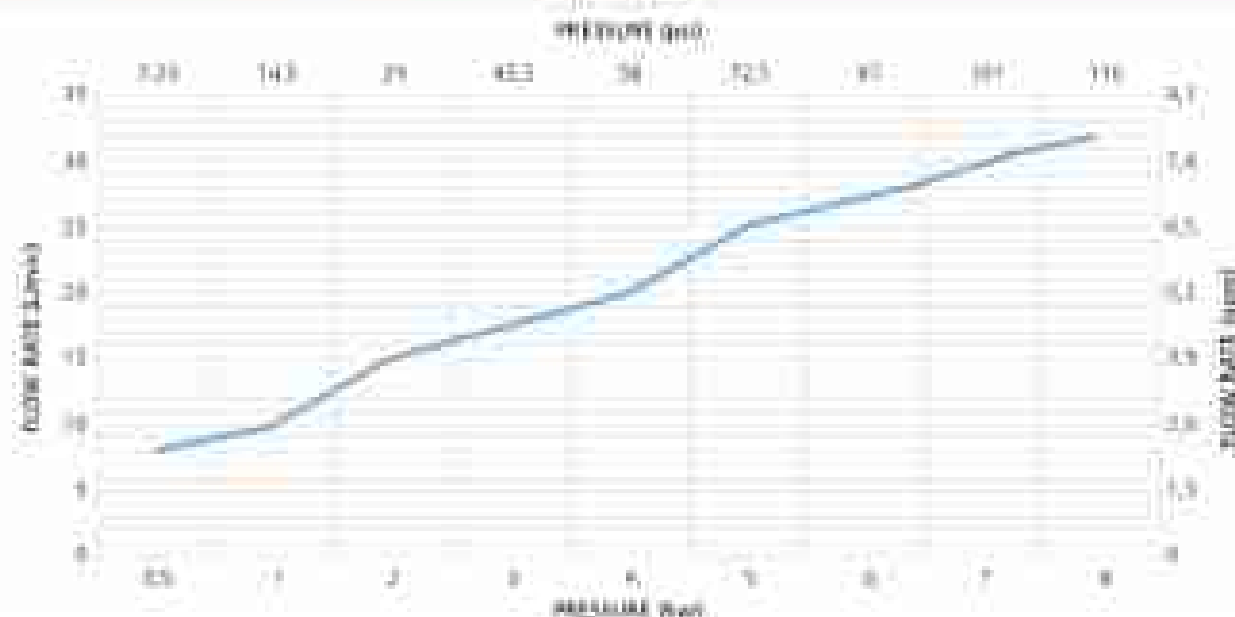
1/2" UNF



1/2" NPT



HYDRAULIC CHARACTERISTIC / CARATTERISTICHIDRAULICHE



WORKING CHARACTERISTICS / CARATTERISTICHED'USO

Working pressure / Pressione di lavoro	0.5 - 8.0 bar (0.05 - 0.8 MPa)
Pressure burst / Pressione di rottura	According to EN10732 / Secondo EN10732
Water hardness / Durezza dell'acqua	According to EN10732 / Secondo EN10732
Flow direction / Direzione del flusso	(As indicated) / (Indicizzato)
Water quality / Qualità dell'acqua	Any quality / Qualità qualsiasi
Working fluid / Fluido di lavoro	Gas / Water / Any gas or liquid
Power supply / Alimentazione / P.A.	24 V AC (latching when it stops) / 24V AC (latching when it stops)
Actuation time / Tempo di attivazione	According to EN10732 / A seconda di EN10732
Fluid Temp. / Temperatura fluido	5° - 60°C / 41° - 140°F
Medium Temp. / Temperatura ambiente	5° - 60°C / 41° - 140°F

ELECTRICAL SPECIFICATIONS NON-LATCHING / SPECIFICHE ELETTRICHE NON-LATCHING

Rated voltage / Tensione nominale	12V AC (maximum 24V AC) / 12V AC (max 24V AC)
Coil power / Potenza bobina	12W (12V AC)
Operating voltage / Tensione di funzionamento	12V AC up to 20°
Rated current / Corrente nominale	1A (12V AC)
IP	IP65

ELECTRICAL SPECIFICATIONS LATCHING / SPECIFICHE ELETTRICHE LATCHING

Rated voltage / Tensione nominale	24V AC (maximum 48V AC) / 24V AC (max 48V AC)
Coil power / Potenza bobina	48W (24V AC)
Operating voltage / Tensione di funzionamento	24V AC up to 20° C
Max voltage surge / Picco di tensione massima	80V
Rated current / Corrente nominale	1.5A (at 24V AC 25°C)
Hold time / Tempo di tenuta	Open: up to 15min / Open: max 15min



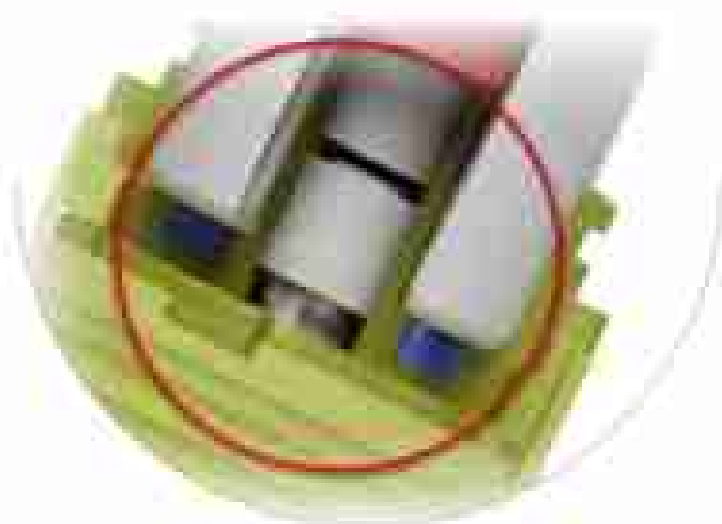
HIGHLIGHTS

The floating cam system represents a unique and innovative solution in this range of valves.

Cetme R&D has concentrated its efforts to design the "springless floating system".

This solution offers several advantages:

- Reduction of power consumption
- Faster response
- No coil sticking (a valve common issue with standard sanitary valves)
- Removal of a critical component. Commonly, when the coil spring is damaged, the valve can remain open, wasting water from the faucet.



The design of this valve is a concentrate of innovation, an ambitious project that today brings many improvements if compared to standard products:

• Labyrinth Calibrated system

The water flows through a sophisticated system of micro channels, designed to enhance the water hammer and to allow a quick and progressive closing.

• Self-Cleaning

The diaphragm has holes for the water flow.

This system prevents any type of blockage due to dirt. The regular up-and-down movement of the membrane causes also a stretch deformation of the holes, keeping the passage constantly clear. This simple and smart system does not need any needle to clean the holes, unlike many other standard valves in this market.





HIGHLIGHTS

Cetme has selected one single material for all the valve seals, LSR (Liquid Silicon Rubber), instead of other common elastomers, such as EPDM.

LSR can grant the better performances:

- Fully food grade approved: LSR is also in compliance with the increasing restrictions concerning rubbers, which will involve and forbid many of the common rubbers.
- Fully compatible with citricum and even in high concentration.
- Fully compatible with the most common chemical agents used for disinfection.
- No ageing/degradation effects: LSR assures a very long life.



The body of the valve and all the internal mechanical parts are made of PPSU, one of the top high resistance plastic materials (generally common valves are made of PVDF or PVDF).

Also in this case, Cetme has selected this high quality material to grant the best performances:

- The high mechanical resistance rates the valve at the top level for burst pressure.
- Thermal distortion: PPSU allows the fluid compatibility at 80°C (200°F) in compliance with the most severe disinfection cycle, while the plastic materials of the common valves mentioned above, allow a max fluid temperature of 65°C (150°F) or a higher temperature just for a limited time.
- Best compatibility with food grade approvals.
- Best compatibility with chemical agents.
- Longer life time resistance.

ITEMS	ITEMS	ITEMS
ITEMS 1	ITEMS 2	ITEMS 3
ITEMS 4	ITEMS 5	ITEMS 6
ITEMS 7	ITEMS 8	ITEMS 9
ITEMS 10	ITEMS 11	ITEMS 12
ITEMS 13	ITEMS 14	ITEMS 15
ITEMS 16	ITEMS 17	ITEMS 18
ITEMS 19	ITEMS 20	ITEMS 21
ITEMS 22	ITEMS 23	ITEMS 24
ITEMS 25	ITEMS 26	ITEMS 27
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ITEMS 280	ITEMS 281	ITEMS 282
ITEMS 283	ITEMS 284	ITEMS 285
ITEMS 286	ITEMS 287	ITEMS 288
ITEMS 289	ITEMS 290	



SOLENOID PUMPS / *Pompe a vibrazione*



Acqua



Rifiuti



Industria
Automazione



Idraulica



Processi



Stoccaggio



Agricoltura



Industria chimica



Domestica



HIGHLIGHTS

- Self priming at 0 bar
- Integrated check valve 24h
- Thermal limit protect
- Full sealed electrical and hydraulic connections
- Dry running allowed only for the self priming stage
- Available with 15000 cycle test – only IEC market (EN60067-1)

PRODUCT DESCRIPTION

Integral pump series E high pressure (ultra-high pressure) EA, EB and EC. These models are available with plastic outlet – (F) and also with brass outlet – (B). These type of pumps provide a compact solution for high pressure and hot fluid applications.

DESCRIZIONE PRODOTTO

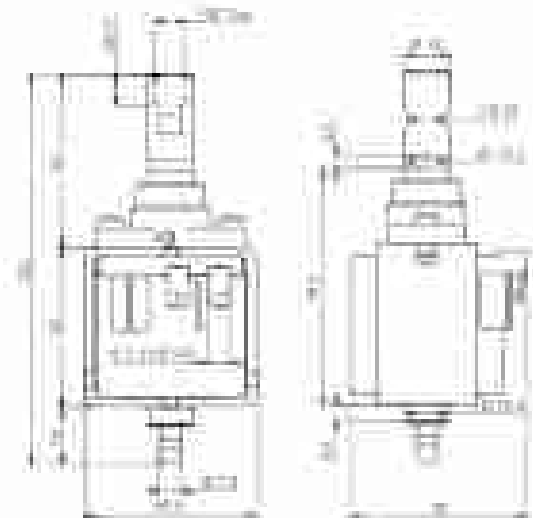
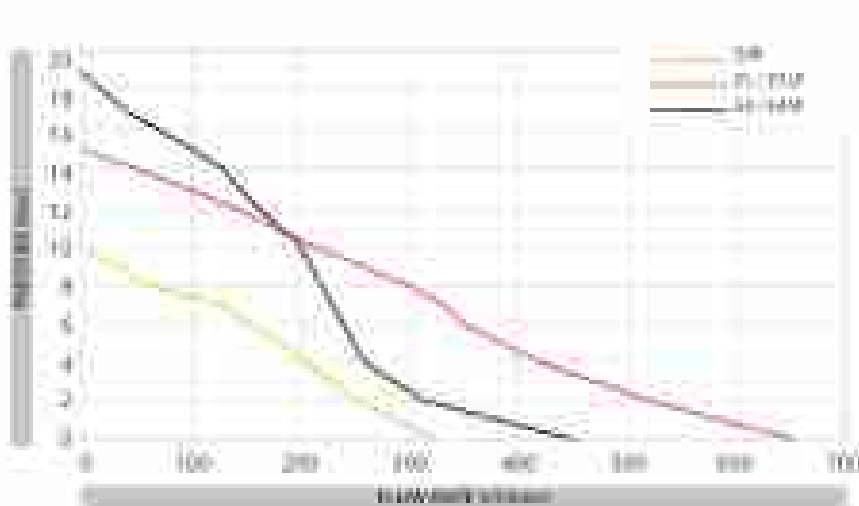
Le pompe a vibrazione della serie E ad alta pressione comprendono i modelli EA, EB e EC. Gli stessi modelli sono disponibili con l'uscita in plastica (F) o con uscita in ottone (B). Questo tipo di pompe offrono una soluzione compatta per applicazioni con alta pressione e fluidi caldi.

GENERAL FEATURES / CARATTERISTICHE GENERALI

Pump body material / Materiale corpo pompa	Aluminum / Alluminio	
Self priming / Autoavanzamento	100 bar (max) available with plastic outlet	
Flow rate range / Portata oraria	10-400 l/min (high constant pressure)	
Max temperature / Temp. fluidi	80°C	
Ambient temperature / Temp. ambiente	25°C	
Working fluid / Fluid di lavoro	Water	
Electrical power / Consumo elettrico	1.5-2.5 kVA (max)	
Wavelength / Lung. d'onda sonora	2	
Hydraulic connection / Connessioni idrauliche	INPUT: 1/2" NPT	OUTPUT: 1/2"
Mounting position / Posizione di montaggio	Any	

SPECIFICATIONS / CARATTERISTICHES

Model	Voltage	Output	Cycle	Flow Power (max)	Approx. Weight
EA (B)	230V ~ 50 Hz	20	2	40	WAC
	230V ~ 50 Hz	24	2	45	VSE
	230V ~ 50 Hz	28	2	48	WAC
	230V ~ 50 Hz	30	2	48	---
	100V ~ 60 Hz	24	2	35	---
	240V ~ 50/60 Hz	24	2	40	---
EB	230V ~ 50 Hz	28	2	50	VSE
	230V ~ 50 Hz	30	2	50	WAC
	230V ~ 50 Hz	32	2	50	---
EC (230V)	230V ~ 50 Hz	28	2	40	WAC
	230V ~ 50 Hz	30	2	40	---
	230V ~ 50 Hz	32	2	50	---



**SERIES E HIGH FLOW
SOLENOID PUMP (UKA)**

Formosa e Montecore LDC



100

11/11/2019

- Just printing is slow
- Integrated Unicode support, 34%
- Thinning output packet
- Full installed network and hardware inspection
- Dry printing allowed only for the just printing option
- Available with Ghost from Novell - only for market (Novell, Inc. 2006: 82-80335.1)
- Used for system changes



REFERENCES

Subsequent principal component analysis (PCA) of the data for variables CTT and DE. These models are available with publicly available – SPSS and also with R (see website) – CR.

These types of features provide continuous signals for low pressure and high flow activation.



RESEARCH REPORT

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10. *Journal of the American Medical Association*, 2000; 284: 1012-1016.

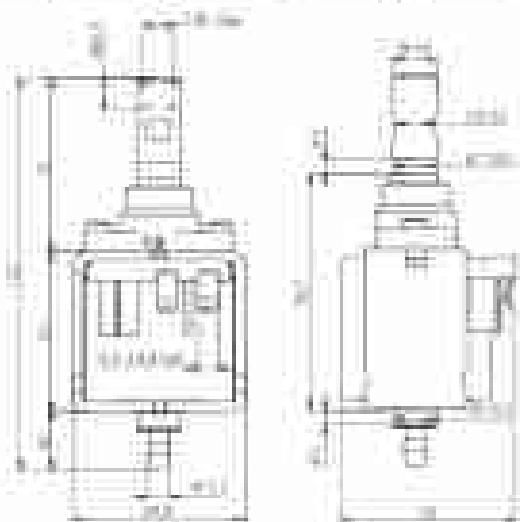
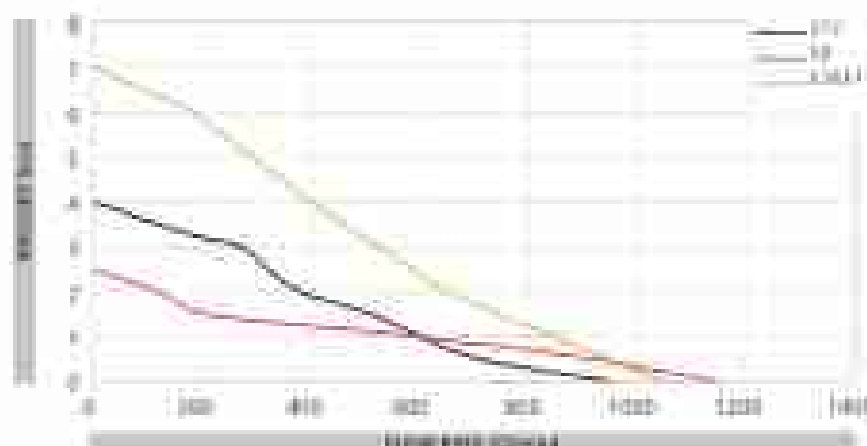


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— 1992 —

Model	Voltage	Power	Class	Case Power Watt	Approx.
E10	120V ~ 50 Hz	100 WATT	A	20	100
	120V ~ 50-60 Hz	100 WATT	F	20	100
	120V ~ 60 Hz	100 WATT	A	20	100
	120V ~ 50-60 Hz	100 WATT	F	20	100
E11	120V ~ 50 Hz	100 WATT	F	20	100
	120V ~ 50-60 Hz	100 WATT	F	20	100
	120V ~ 60 Hz	100 WATT	F	20	100
	120V ~ 50-60 Hz	100 WATT	F	20	100
E12	240V ~ 50 Hz	200	F	40	100
	240V ~ 50 Hz	200	F	40	100/200
	240V ~ 50 Hz	200	F	40	100
	240V ~ 50-60 Hz	200	F	40	100
	240V ~ 60 Hz	200	F	40	100
	240V ~ 50-60 Hz	200	F	40	100
E13	120V ~ 60 Hz	200	F	50	100

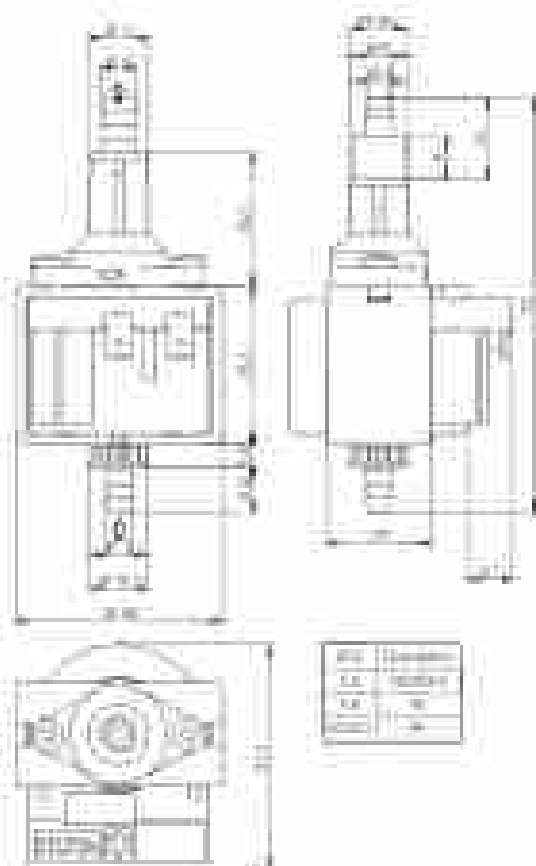
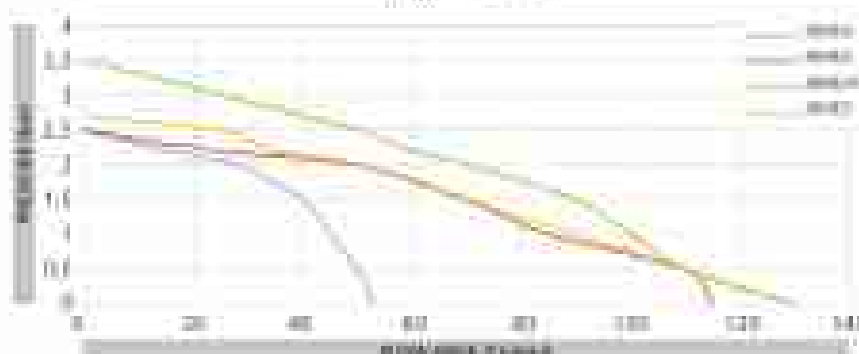
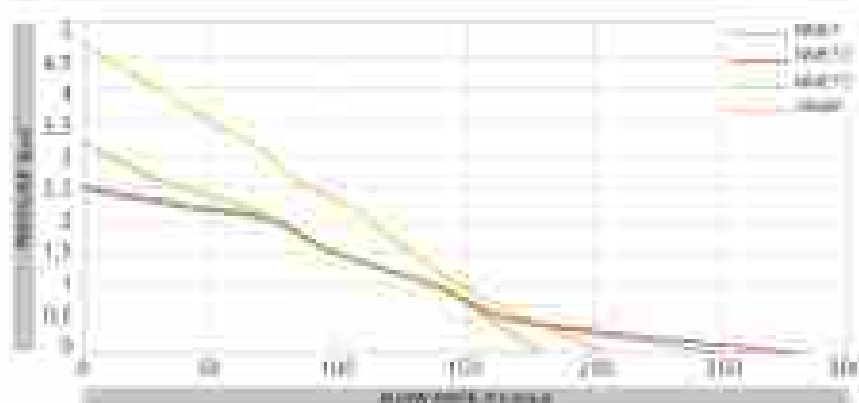




RESEARCH DESIGN

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Model	Wings	DOF	Case	Col Rows	Watt	Approx
TGA	2000 - 2000 Hz	80.00%	1	10	—	100
	2000 - 3000 Hz	80.00%	1	10	—	—
	3000 - 4000 Hz	80.00%	1	10	—	—
	4000 - 5000 Hz	80.00%	1	10	—	—
	5000 - 6000 Hz	80.00%	1	10	—	—
S&B	2000 - 6000 Hz	80.00%	1	10	—	100
	2000 - 10000 Hz	80.00%	1	12	—	10



SERIES NMEHP SOLENOID PUMP ULKA

Pompa a Wzrostanie ULKA

ULKA

HIGHLIGHTS

- Set pressure at 3 bar
- Integrated shutoff valve 24V
- Full direct electrical and hydraulic protection
- 100% duty
- 95-125 CC/min
- 4.7 x 5.2 bar

PRODUCT DESCRIPTION

Solenoid pump series NMEHP includes 3 different models, with maximum flow rate of 125 cc/min and maximum pressure 5.2 bar. These pumps are suitable for continuous working 100% duty. The NMEHPs are available with two types of connection, with the option to include port with hose barb and 1/4" NPT thread connection.

DESCRIZIONE PRODOTTO

La serie pompa a solenoide serie NMEHP include 3 diverse modelli, con portata massima di 125 litri al minuto e massima pressione 5.2 bar. Queste pompe solenoide funzionano in continuo 100% duty. Le NMEHP sono disponibili con due tipi di collegamento, con l'opzione di includere porta con bocchella e 1/4" NPT a filettatura.

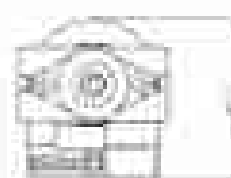
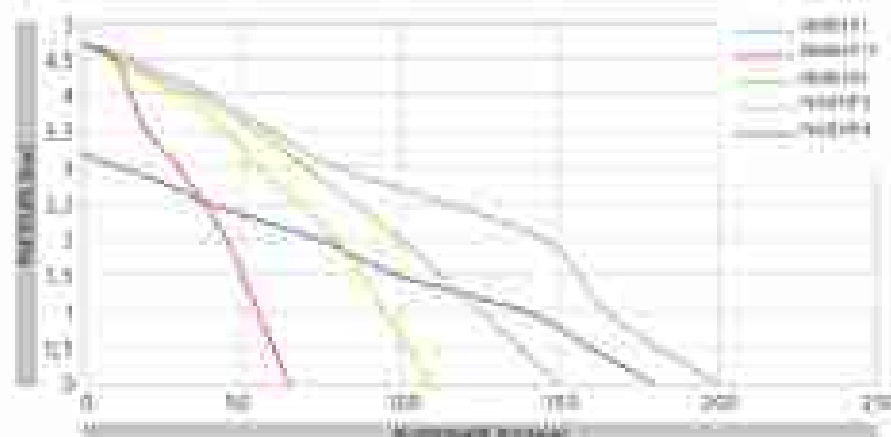
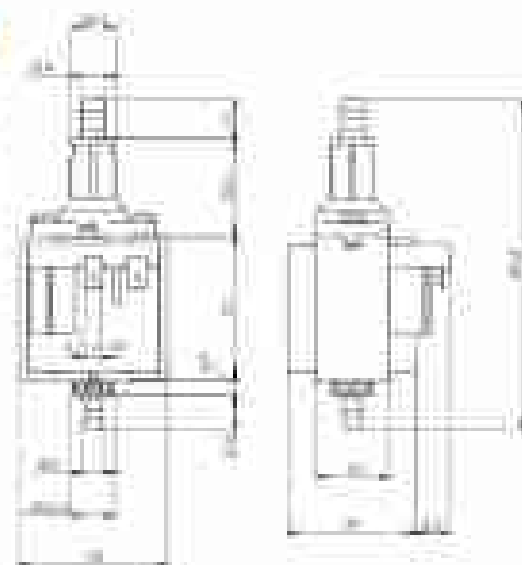


GENERAL FEATURES / CARATTERISTICHE GENERALI

Pump body material / Materiale corpo pompa	NMEHP11	
Body material / Materiale corpo pompa	100% copper alloy (aluminum alloy, request)	
Power and torque / Potenza e coppia	Electromechanical high-current sealless	
Fluid temperature / Temp. fluido	0°C	
Ambient temperature / Temp. ambiente	0°C	
Working fluid / Fluido di lavoro	Water	
Rated output / Output nominale	0.7 x 5.2 bar (set point)	
Viscosity class / Classe di viscosità	0	
Hydraulic connection / Collegamento idraulico	PORT - hose barb	OUTLET - hose barb - 1/4" NPT
Mounting position / Posizione di montaggio	Any	

PERFORMANCE / CARATTERISTICHE

NMEHP	Flow rate	ULKA	Class	Set Point (bar)	Approach
PUMP	2000 - 5000	95-100%	A	25	UL
	2000 - 4000	90-100%	B	21	
	1000 - 6000	100-100%	B	10	UL
	1000 - 10000	100-100%	B	21	
	200 - 10000	100-100%	B	10	
NMEHP11	1000 - 5000	95	B	27	UL



Model	Flow rate (l/min)	Pressure (bar)
NMEHP1	2000 - 5000	25
NMEHP2	2000 - 4000	21
NMEHP3	1000 - 6000	10
NMEHP4	1000 - 10000	21
NMEHP5	200 - 10000	10

SERIES ES00 HP SOLENOID PUMP HIGH PRESSURE Pompe a Wirlachione ad alta pressione

ULKA

Series ES00 HP

HIGHLIGHTS

- Self-priming at 2 bar
- Integrated waste loop (2 bar)
- Thermal cut-off switch
- Full detailed electrical and hydraulic inspection
- Dry running allowed only for the self-priming phase
- Full patented system
- Available with 12 bar (1 bar + 1 bar) AC Model (GNT) and 12 bar DC Model (GNT)



PRODUCT DESCRIPTION

Solenoid pump series ES00 High Pressure comprises the versions ES00, ES00A and ES00C.

Three types of pumps ensure a compact solution for high pressure and low flow applications. The hydraulic connections are 1/4" BSP (G) and 1/8" NPT (F) female outlet.



DESCRIZIONE PRODOTTO

La pompa a Wirlachione della serie ES00 ad alta pressione comprende i modelli ES00, ES00A ed ES00C.

Queste tre versioni della pompa offrono una soluzione compatta per applicazioni ad alta pressione e basso portata. La connessione idraulica per l'uscita è 1/4" BSP (G) e 1/8" NPT (F) femmina.

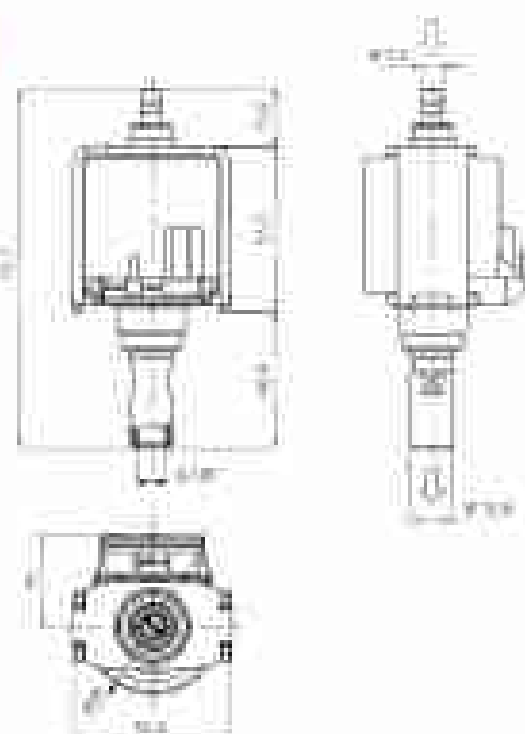
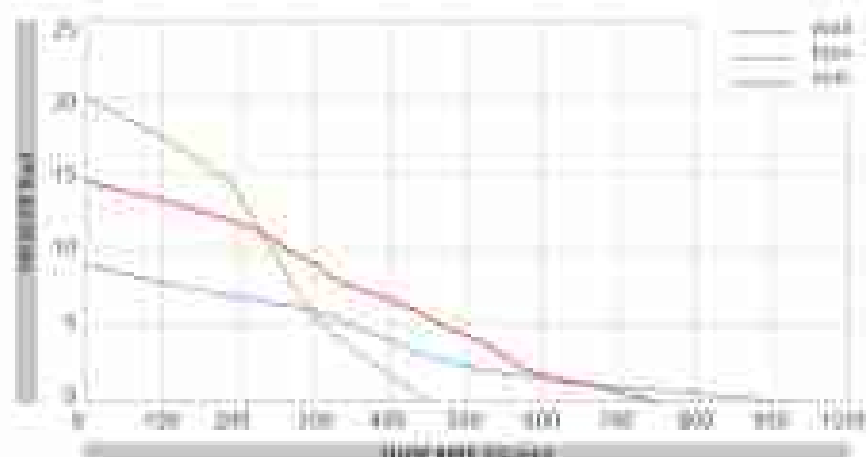


GENERAL FEATURES / CARATTERISTICHE GENERALI

General features / Caratteristiche generali	ES00 HP	
	ES00 HP (female outlet) (outlet)	
Max temperature / Temp. fluid	80°C (200°F)	80°C (200°F)
Ambient temperature / Temp. ambient	70°C (158°F)	70°C (158°F)
Working fluid / Fluid di lavoro	Water	
Electrical supply / Alimentazione elettrica	AC 230V 50/60 Hz (1 phase)	
Insulation class / Classe di isolamento	F	
Hydraulic connections / Connettori idraulici	1/4" BSP (G) and 1/8" NPT (F)	1/4" BSP (G)
Mounting position / Posizione di montaggio	Any	

SPECIFICATIONS / CARATTERISTICHE

Model	Voltage	Power	Flow	Max Power (Watt)	Approx.
ES00	230V ~ 50 Hz	10 (100%)	1	80W	50%
	230V ~ 60 Hz	10	1	80W	50%
	230V ~ 50 Hz	20	1	160W	100%
ES00A	230V ~ 50 Hz	10	1	80W	50%
	230V ~ 60 Hz	10	1	80W	50%
	230V ~ 50 Hz	20	1	160W	100%
ES00C	230V ~ 50 Hz	10	1	80W	50%
	230V ~ 60 Hz	10	1	80W	50%
	230V ~ 50 Hz	20	1	160W	100%





HIGHLIGHTS

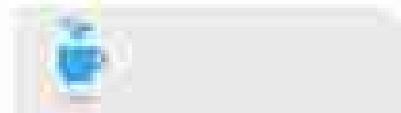
- Self priming at 2 bar
- Integrated check valve, 24h
- Thermal cutout protect
- Full diaphragm electrical and hydraulic protection
- Dry working allowed only for the self priming phase
- suction power: 100 mm
- Available with 230V 50Hz and 115V 60Hz models (E500T and E500T-EC 40088-A)

PRODUCT DESCRIPTION

Solenoid pump with 1100 high flow (compared the version E500, E500T, E510 and E514).
These type of pump provide a compact solution for high flow rate and low pressure applications.
The hydraulic connections are brass both inlet and 1/2" outlet outlet.

DESCRIZIONE PRODOTTO

La pompa a vibrazione serie E500T alta portata (rispetto alla versione E500, E500T, E510 ed E514).
Questo tipo di pompa offriamo una soluzione compatta per applicazioni ad alto flusso e bassa pressione.
Le connessioni idrauliche in ottone, sia l'ingresso che l'uscita a 1/2" (in uscita 1/2").

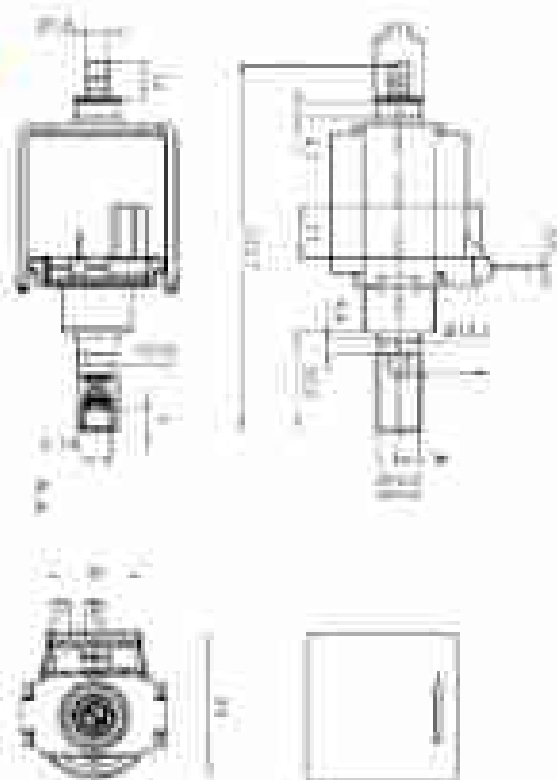
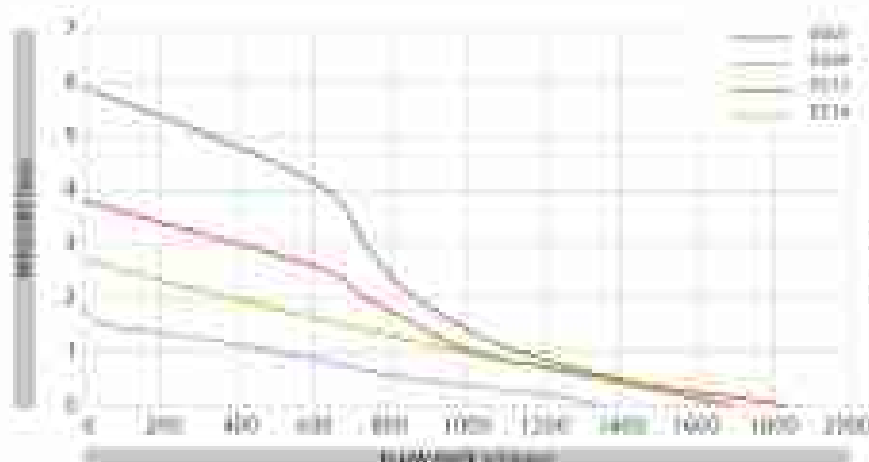


GENERAL FEATURES / CARATTERISTICHE GENERALI

GENERAL FEATURES / CARATTERISTICHE GENERALI		PRODOTTO	
Material / Materiale		SPECIFIC TYPE / Specificazione	
Flow temperature / Temp. fluido		0°C (32°F) - 115°C (239°F)	0°C (32°F)
Ambient temperature / Temp. ambiente		0°C (32°F) - 115°C (239°F)	0°C (32°F)
Working fluid / Fluidi di lavoro		Water	
Backflow prevent / Prevenzione ritorno		2.5 x 0.5" (1/2" x 1/4")	
Inlet / Outlet / Ingresso / Uscita		1/2"	
Hydraulic Connections / Connessioni idrauliche		G1/2" (1/2")	
Mounting position / Posizione di montaggio		Any	

SPECIFICATIONS / CARATTERISTICHE

MODEL	Power	Capacity	Flow	Current	Pressure
E500	230V - 50Hz	1.5	3	40A	100
	115V - 60Hz	1.5	4	40A	10
	230V - 50Hz	1.5	7	40A	10
E500T	230V - 50Hz	10 (100%)	3	100W	100
	115V - 60Hz	10 (100%)	3	100W	100
E510	230V - 50Hz	10 (1.3)	4	100W	10
	115V - 60Hz	10 (1.3)	4	100W	10
	230V - 50Hz	10 (1.3)	4	100W	10
E514	230V - 50Hz	10 (1.3)	4	100W	10
	115V - 60Hz	10 (1.3)	4	100W	10



E500 FM SOLENOID PUMP FM Pompa a Wibratore FM

ULKA

Model E500 FM

HIGHLIGHTS

- Self priming action
- Integrated diaphragm
- Thermal cutout protection
- Full installed electrical and hydraulic inspection
- Del. working allowed only for the self priming action
- FM patented system
- Available with 1 phase (230V AC) or 3 phase (400V AC) (50/60 Hz) (T50 °C IEC 60335-1)

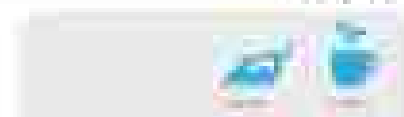


PRODUCT DESCRIPTION

Solenoid pump series E500 FM (also advantage from the FM patented technology, that allows double (1) performance) in terms of pressure and flow rate with a flow capacity with pump empty to 1500. This series of pump comprises two models E500 FM and E500 FM. These two different models provide a complete solution for high pressure and flow rate applications. The hydraulic connection can be installed with a 1/2" female outlet.

DESCRIZIONE PRODOTTO

La pompa a vibrazione della serie E500 FM utilizza un sistema brevettato che consente di ottenere prestazioni superiori di portata e pressione con una riduzione dei consumi elettrici della serie E500. Questa serie di pompe comprende i modelli E500 FM e E500 FM. Questo tipo di pompe offrono una soluzione completa per applicazioni con alte pressioni e alte portate. La connessione idraulica utilizza l'ingegnere con collegamento a femmina con fileto standard (1/2").

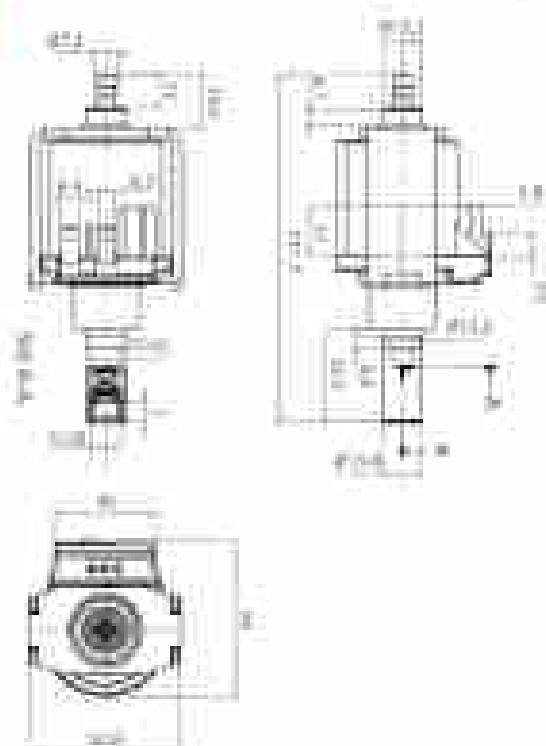
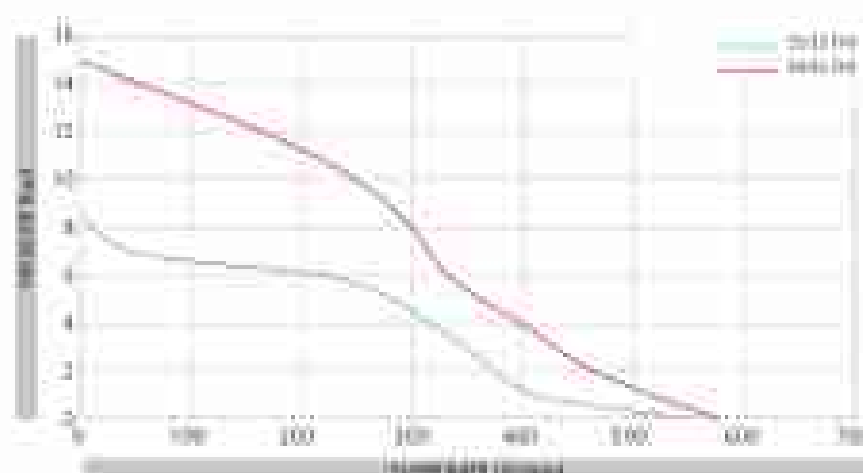


GENERAL FEATURES / CARATTERISTICHE GENERALI

General features / Caratteristiche generali	E500 FM	
Self priming / Auto-priming	1500 l/min (empty)	
Flow temperature / Temp. fluid	70 °C	
Medium temperature / Temp. medium	70 °C	
Working fluid / Fluid to be used	Water	
Electrical current / Current intensity	4.2 x 1.5 (phase current)	
Insulation class / Class of insulation	F55	
Hydraulic connection / Connection MOUNT	NPT 1/2" female	OUTLET 1/2"
Working pressure / Pressure of supply	10 bar	

APPLICATIONS / CARATTERISTICI

Model	Intake	Output	Flow	Flow Power (Watt)	Applicazioni
E500 FM	120V - 240V	2"	1"	42W	100
E500 FM	230V - 400V	2"	1"	40W	100





REFERENCES

- Electrical breakdown, creep
- Self-healing
- Glass half-megapascals
- Glass 1000°C

PROJECT IDENTIFICATION

• **Efficient** Quantum flow rate of 270 l/min and maximum pressure 2.7 bar. Three outputs are suitable for continuous working (30-100%). The EPSC is available with two beds (100% conversion).

THESE MATERIALS PROVIDED TO

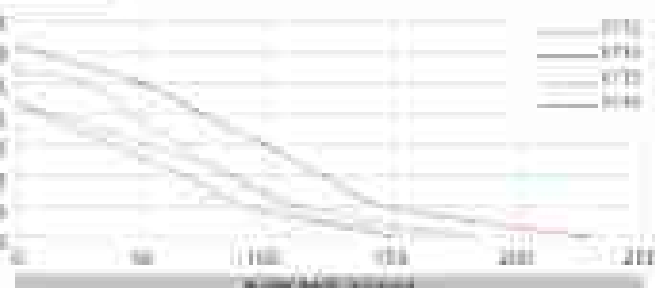
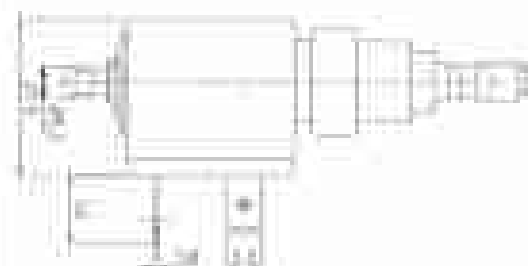
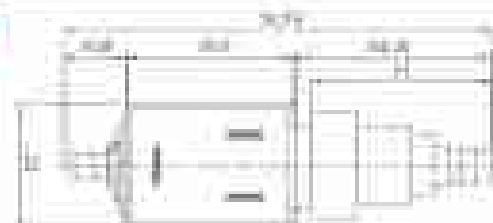
La nuova strategia strategica, con l'11.11.2016, è stata approvata dal Consiglio di Amministrazione della società, con l'obiettivo di migliorare la redditività e la competitività della società, attraverso la riduzione dei costi e l'aumento dei ricavi.

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Model	Package	Capacity	Class	Est. Home Ret.	Approx. Price
1101	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
1102	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
1103	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
1104	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
1105	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
1106	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
1107	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A
	100% - 50 Hz	ED100%	1A	1000	1000
	100% - 60 Hz	ED100%	1A	1000	1A



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SERIES E300 SOLENOID PUMP Pompa a vibrazione

CETME

Special Turbo

HIGHLIGHTS

- Electrical insulation class F
- 50-100%
- Gender not assigned
- Class 100°C

PRODUCT DESCRIPTION

Solenoid pump series E 300 provides a maximum flow rate of 150 l/min at a maximum pressure 5.5 bar. These pumps are suitable for continuous working 100 100%. The E300s are suitable with both low and corrosion, when the fluid is available with low Sulfur and 150°C, higher protection.

DESCRIZIONE PRODOTTO

La pompa solenoide serie E300 offre una portata massima di 150 l/min a una pressione massima di 5,5 bar. Queste pompe possono lavorare in continuo 100 100%. Le E300 sono adatte con fluidi a basso contenuto di zolfo e 150°C, superiore protezione se con un'eventuale alta temperatura 150°C o 150°C superiore.

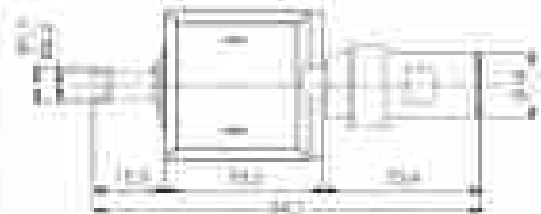
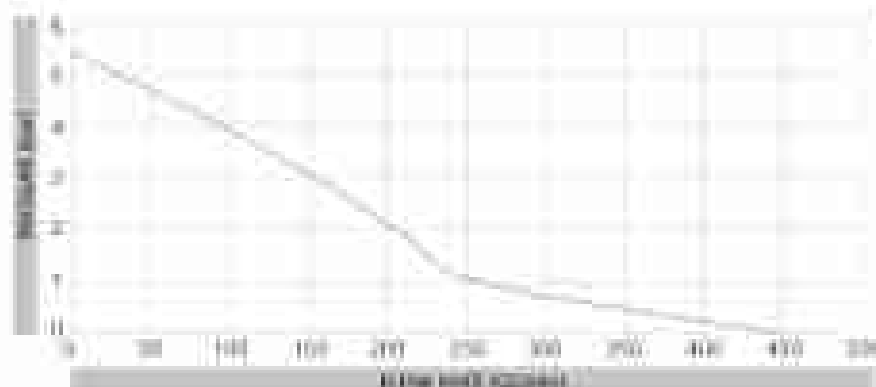
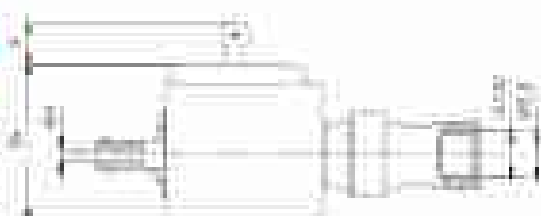


GENERAL FEATURES / CARATTERISTICHE GENERALI

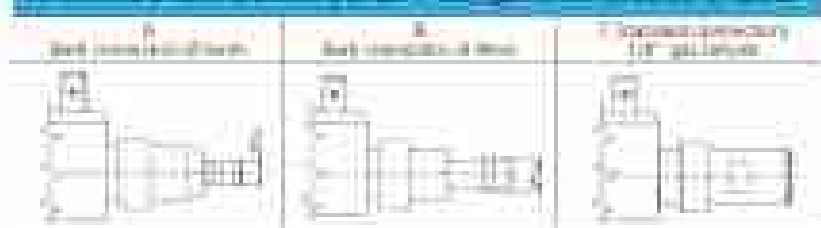
General material / Materiale del corpo	MAX 400
Body material / Materiale del corpo	SP300 + 100
Body temperature / Temp. Body	100°C
Ambient temperature / Temp. ambiente	100°C
Working fluid / Fluido di lavoro	Water
Electrical supply / Alimentazione elettrica	5,5 x 100 (100) (100)
Electrical class / Classe di isolamento	F
Hydraulic connection / Conoscenza idraulica	100% (100) (100)
Mounting position / Posizionamento di montaggio	100

SPECIFICATIONS / CARATTERISTICHE

Model	Power	Capacity	Class	Cal Power/Watt	Approach
E300	20W - 1.00 Hz	1000%	1	20W	100
E301	1.0W - 100 Hz	1000%	1	10W	10
E302	1.0W - 1000 Hz	1000%	1	10W	10
E303	1.0W - 100 Hz	1000%	1	10W	10



HYDRAULIC CONNECTION OUTLET / Collegamento idraulico all'uscita



HYDRAULIC CONNECTION INLET / Collegamento idraulico all'ingresso





HIGHLIGHTS

- Electric solenoid, class F
- Up to 100% leak, Class IV
- Stroke not regulated
- Class IV-C

PRODUCT DESCRIPTION

Solenoid pump series E 400 consists of solenoid and provides a maximum flow rate of 0 bar (pressure) 1100 cc/min and maximum pressure of 2.8 bar. The E400 pumps are suitable for continuous working (25/100%) with the exception of the 27W and power. The E400s are available with fixed ball seat and ball seat mechanism.

DESCRIZIONE PRODOTTO

La pompa pompa solenoide serie E 400 consiste di solenoide e offre una portata massima di 1100 cc/min a 0 bar e una pressione massima di 2.8 bar. Le pompe pompa possono lavorare a continuo (25/100%) ad eccezione di quelle con potenza di 27W (a 27W sono disponibili con stop) e ingombro e con ball seat e ball seat mechanism.

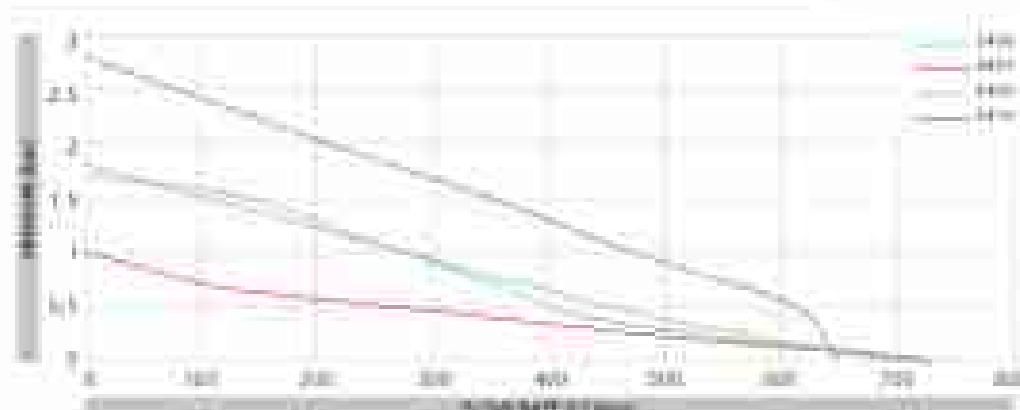
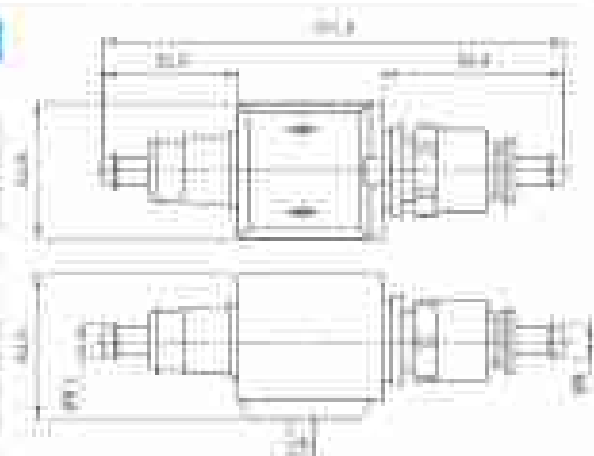


GENERAL FEATURES / CARATTERISTICHE GENERALI

Flow rate (max) / Portata (max)	1100 cc/min	
Ball seat / Valvola a sfera	15°	
Ball seat / Valvola a sfera	15°	
Working time / Tempo di lavoro	25%	
Rated current / Corrente nominale	8.8 A / 230 V (max)	
Pressure / Pressione	2.8 bar	
Hydraulic connections / Collegamenti idraulici	INLET: High flow	OUTLET: High flow
Mounting position / Posizione di montaggio	Any	

SPECIFICATIONS / CARATTERISTICHE

Model	Voltage	Rating	Stroke	Class	Flow rate (cc/min)	Pressure (bar)
E400	230V ~ 50/60 Hz	8.8A	10/100%	F	1100	—
	120V ~ 60 Hz	8.8A	10/100%	F	1100	16
	110V ~ 50/60 Hz	8.8A	10/100%	F	1100	—
E400	230V ~ 50/60 Hz	8.8A	10/100%	F	1100	—
	120V ~ 60 Hz	8.8A	10/100%	F	1100	16
	110V ~ 50/60 Hz	8.8A	10/100%	F	1100	—
E400	230V ~ 50/60 Hz	8.8A	10/100%	F	1100	—
	120V ~ 60 Hz	8.8A	10/100%	F	1100	16
	110V ~ 50/60 Hz	8.8A	10/100%	F	1100	—
E410	230V ~ 50/60 Hz	8.8A	10/100%	F	1100	16
	120V ~ 60 Hz	8.8A	10/100%	F	1100	16
	110V ~ 50/60 Hz	8.8A	10/100%	F	1100	—



SERIES E100

SOLENOID PUMP

Pompa a vibrazione



Series E100

HIGHLIGHTS

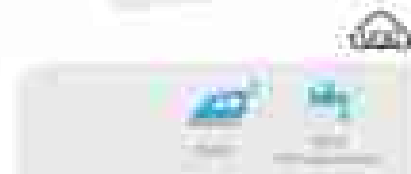
- Self priming up to 2m
- Class II
- Compact design
- Total media separated
- Low noise

PRODUCT DESCRIPTION

The E100 solenoid pump offers a solution with a total media separation by design, extremely low noise technology and a remarkable compact design. Available in three different versions, with 125V, 230V and 240V AC voltage connection, its power is 100W or 150W or 200W, it is suitable for many different applications.

DESCRIZIONE PRODOTTO

La pompa a vibrazione E100 offre una soluzione con separazione totale dei fluidi, una tecnologia a bassissimo rumore e un design dagli spiccati aspetti tecnici. È disponibile in diverse versioni con connessione elettrica da 125 a 240V AC, con potenze da 100W a 200W, ed è adatta per molteplici applicazioni.

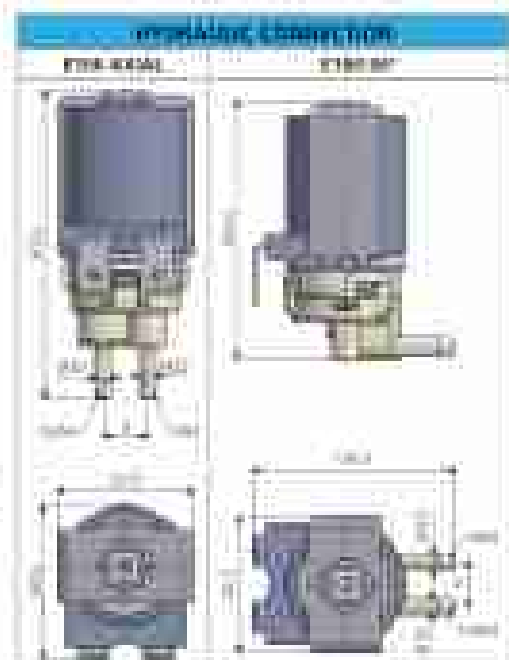
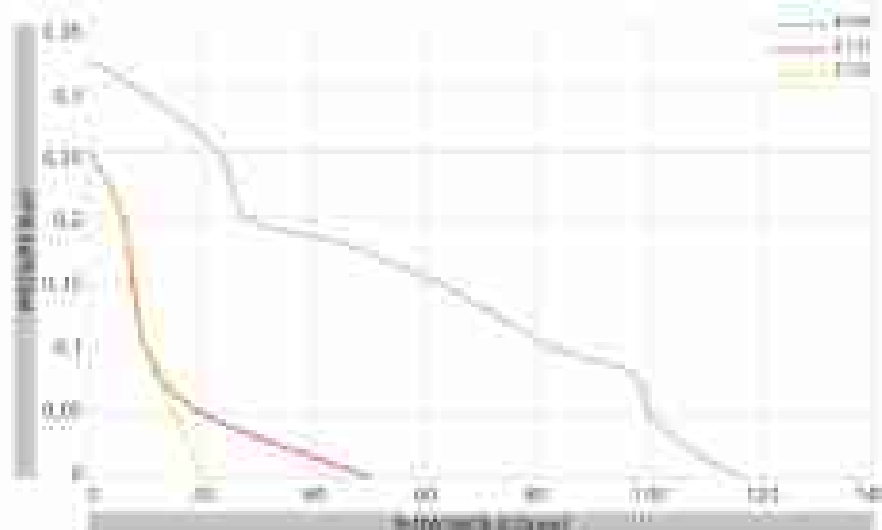


GENERAL FEATURES / CARATTERISTICHE GENERALI

Body material / Materiale del corpo	Steel	
Installation / Montaggio	E100: vertical	
Body and spring / Corpo e molla	Stainless steel / High speed stainless	
Refrigeration / Riscaldamento	Yes	
Arrest temperature / Temp. arresto	150°C	
Flow / Flusso	1000	
Working fluid / Fluido di lavoro	Water	
Medium contact / Contatto mezzo	3.3 x 1/8" (8mm)	
Maximum flow / Flusso massimo	1000	
Maximum pressure / Pressione massima	1000 (1000/1000/1000)	1000 (1000/1000/1000)
Mounting position / Posizione di montaggio	40°	

SPECIFICATIONS / CARATTERISTICHE

Model	Voltage	Power	Flow	Max. pressure	Max. flow
E100	125V - 1000W	1000W	1000	1000	1000
E100	230V - 1000W	1000W	1000	1000	1000
E100	240V - 1000W	1000W	1000	1000	1000





HIGHLIGHTS

- Self-priming up to 8 bar
- Connections 0.58"
- Max. press. 20 bar - Max flow rate 190 l/h
- Full delayed electrical and hydraulic transition
- Dry working allowed only for self-priming (3:1 ratio)

PRODUCT DESCRIPTION

Internal pump series ET 3000 includes 2 models, ET3000 and ET3000A. Suitable for water and water-oil hydraulic fluid. Among the top (CETME) control pumps, the series ET is the most powerful with very high performance. Both the connections and the inlet, are 0.58" female. Dry working allowed only for self-priming (3:1 ratio).

DESCRIZIONE PRODOTTO

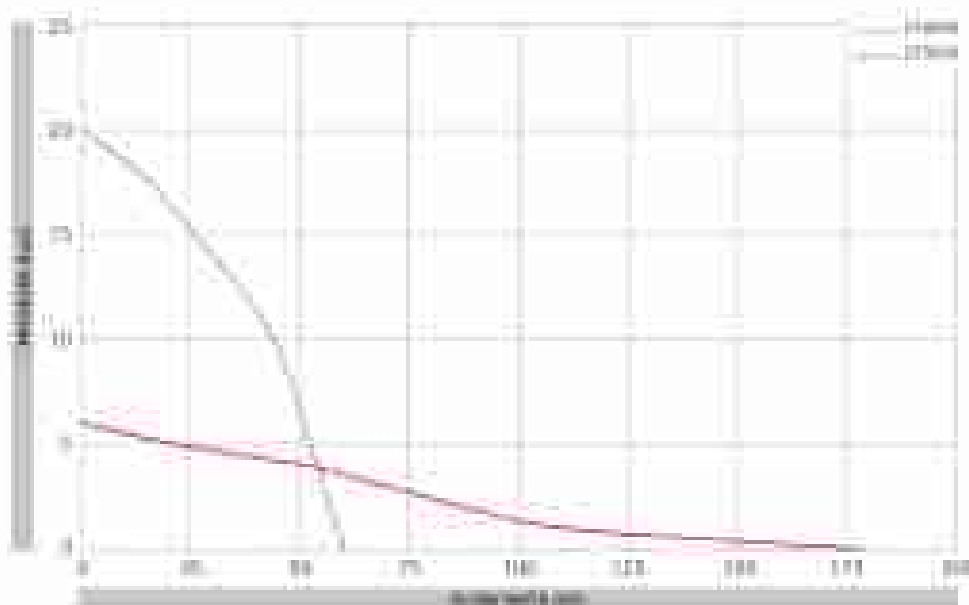
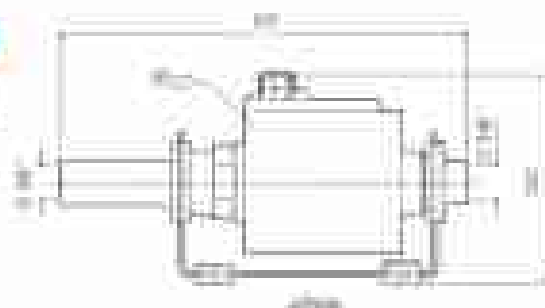
La pompa a iniezione serie ET3000, comprende 2 modelli, la ET3000 e la ET3000A. Questa serie rappresenta la più potente tra le pompe a iniezione a liquido idraulico. Sia in termini di portata di 190 l/h sia in termini di pressione di 20 bar. Entrambe le connessioni, sia l'entrata che l'uscita sono 0.58" femmine. Il funzionamento a secco è consentito solo per l'auto-priming (3:1 ratio).

GENERAL FEATURES / CARATTERISTICHE GENERALI

Self-priming / Auto-priming	Max. self-priming up to 8 bar	
Flow rate / Portata	190 l/h	
Max. pressure / Press. max.	20 bar	
Operating temperature / Temp. service	-20°C ET3000 - 40°C ET3000A	
Storage temperature / Temp. storage	-30°C ET3000 - 70°C ET3000A	
Working fluid / Fluid di lavoro	Water / Water-oil hydraulic fluid	
Electrical system / Sistema elettrico	24VDC 400mA/500mA/1A/2A/5A	
Installation / Installazione	Vertical / Vertical	
Hydraulic connections / Connessioni idrauliche	0.58" (15.24 mm)	0.58" (15.24 mm)
Mounting position / Posizione di montaggio	Vertical	

SPECIFICATIONS / CARATTERISTECHICHE

MODEL	Voltage	ON/OFF	Class	Rated Power (Watt)	Approx.
ET3000	24V - 50 Hz	AT	M	1700	60
ET3000A	24V - 50 Hz	AT/NO	H	600	60



TEST PROCEDURE

Scheda di prova

HOW OUR TEST IS CARRIED OUT:

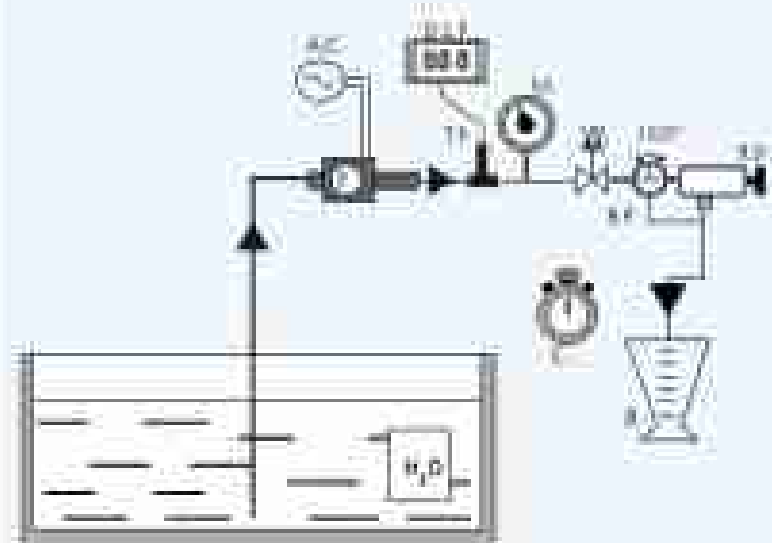
Come viene effettuato il test

1. Cold pump / Pompa a freddo
2. "X" pressure value setting / Impostazione valore "X" della pressione
3. Rate of flow measured in l / minute (l) / Rate of flow measured in l / minute (l)

LEGEND / Legend

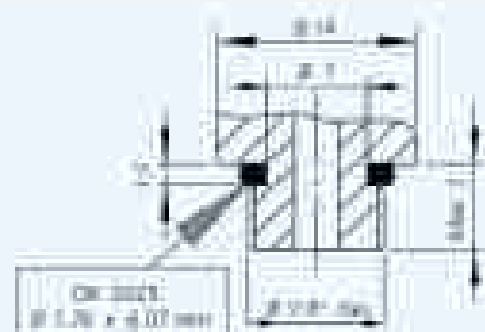
Come viene effettuato il test

- P.** Pump / Pompa
- A.C.** Pump supply at 100V / Pompa di alimentazione elettrica a 100V
- T.P.** Pressure electronic transducer / Trasduttore di pressione elettronico
- D.L.R.** Pressure reading display / Display di lettura della pressione
- M.** Manometer with glycerine inside / Manometro con glicerina all'interno
- B.P.** By flow at 0.1bar / By flow at 0.1 bar
- R.P.** Pressure setting regulator / Regolatore regolatore di pressione
- C.** Chronometer / Cronometro
- B.** Flow rate measurement container (Bottle) / Piatto contenitore di misura (Bottiglia)
- W.** Water tap to measure the maximum pressure / Rubinetto dell'acqua per misurare la pressione massima



Drawing showing the ideal junction and hydraulic seal to be applied at the delivery of pump type B

Scheda di connessione e tenuta idraulica ideale da applicare alla mandata della pompa B



At issue is safety and hygiene when using water as fluid. We advise therefore to use the products designed especially for this use and to use appropriate personal protection measures, without water added to them, even one subject to medical use, which is designed to be used for other medical purposes, any kind of pump malfunctioning.

The junctions and hydraulic seal must be tested according to specific conditions, temperature 23°C, 5-6 years, 20% wet and 100% dry. The products must be tested in the presence of water, but not under vacuum and at average, low or high pressure of 2-10% in any case the adjustment to actual use, pressure measured for 10 minutes.

Inspected components, 10% of the pump, components subjected to the test, 100% (100% of the components are to be tested by the water and 100% of the components are to be tested by the vacuum test).

With a pump, pump characteristics must be checked under specific conditions. Conditions: average input and temperature of water, 20°C, 5-6 years, 20% wet and 100% dry. The products must be tested in the presence of water, but not under vacuum and at average, low or high pressure of 2-10% in any case the adjustment to actual use, pressure measured for 10 minutes.

At issue is safety and hygiene when using water as fluid. We advise therefore to use the products designed especially for this use and to use appropriate personal protection measures, without water added to them, even one subject to medical use, which is designed to be used for other medical purposes, any kind of pump malfunctioning.

The products of this type must be tested under specific conditions, temperature 23°C, 5-6 years, 20% wet and 100% dry. The products must be tested in the presence of water, but not under vacuum and at average, low or high pressure of 2-10% in any case the adjustment to actual use, pressure measured for 10 minutes.

General Assembly

Executive Committee

Advisory Committee

Technical Committee

Public Outreach Committee

Finance Committee

2007-2008

2008-2009

2009-2010



PERIPHERAL PUMPS / *Rompe periferiche*



SERIES MTP700 PERIPHERAL PUMP Pompa periferica



NOTES:

- Single phase induction motor (230V - 230/240V / 50Hz - 60Hz)
- Collector 10 µl
- Ambient temperature 140 °C
- Motor Power Consumption 40W or
- Thermal insulation Class F
- Fan cooled

For additional or more phase contact see technical department.

A MOTOR:

- Ambient temperature or induction (230V - 230/240V / 50Hz - 60Hz)
- Collector 10 µl
- Ambient temperature 140 °C
- Motor Power Consumption 40W or
- Class of insulation Class F
- Sufficiency of all motor series

For additional (other phase) contact see technical department.

WORKING CONDITIONS:

Ambient: 1° - 20°C / 32°C

Fluid: 10°C / 80°C

Duty: Constant pressure max 20 bar, 100% TD continuous up to 1 bar, 50% - intermittent down to 0 bar
Suitable for use with water and low viscosity hydraulic fluid

For different working conditions please contact our technical department.

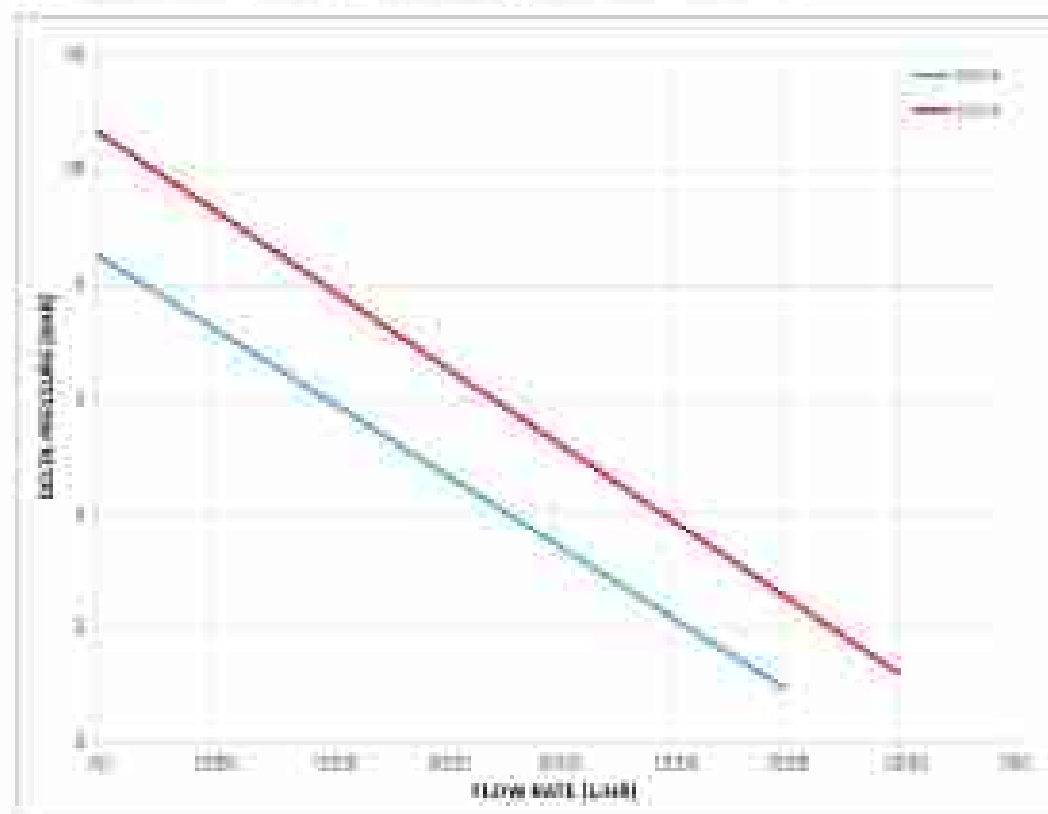
CONDIZIONI DI LAVORO:

Temperatura ambiente: 1° - 20°C / 32°C

Temperatura fluido: 10°C / 80°C

Duty: Pressione massima (max 20 bar), 100% (TD fino a 1 bar, 50% - intermittente fino a 0 bar)
Adatto per l'uso con acqua e fluidi idraulici a bassa viscosità

Per le diverse condizioni di lavoro e la pompa di contatto per il nostro dipartimento tecnico.



NOTE: Hydraulic characteristics obtained with water at 20°C at pump nominal speed.
Working pressure on hydraulic and PNEUMAT (maximum 4.5 bar)

NOTA: Caratteristiche idrauliche ottenute con acqua a 20°C a regime nominale della pompa.
La massima di lavoro safe caratteristiche idrauliche ed pneumatiche sono di 4.5 bar



HIGHLIGHTS

- Peripheral pump
- ED 100%
- Long life service
- Self priming (optional)

PRODUCT DESCRIPTION

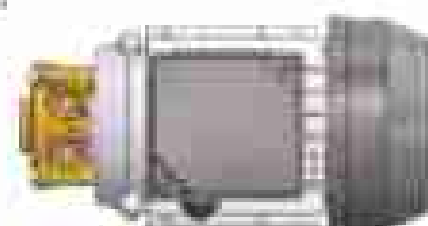
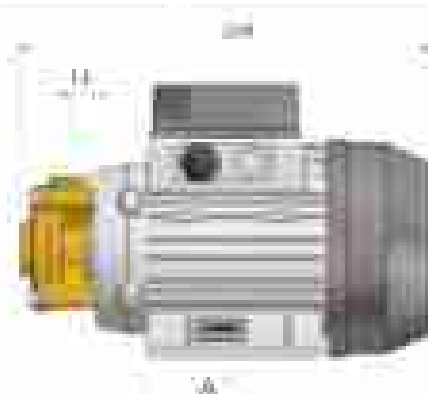
These peripheral pumps are made for nearly all high flow rates with 2-inlet/outlet sized bodies. Thanks to their reduced dimensions, they are particularly suitable for being installed on compact driving units. These pumps are suitable for clean water (chemicals and oil-free liquids) and without solids.

DESCRIZIONE PRODOTTO

Queste elettropompe periferiche con un motore inaltamente performante, sono ideali per applicazioni in alta portata. Grazie alle loro ridotte dimensioni, sono particolarmente adatte ad essere installate su unità di automazione compatte (per automazione computer). Queste pompe sono adatte all'uso con acqua pulita (liquidi chimici e oli senza impurità).

GENERAL FEATURES / CARATTERISTICO GENERALI

Pump Body / Corpo pompa	Stainless steel with optional painted finish (RAL)		
Shaft / Albero	Stainless steel with optional painted finish (RAL)		
Impeller / Girante	Stainless steel		
Maximum Input / Potenza massima	0.6 kW / 0.81 hp		
Flow / Portata	1000 - 10000 l/h		
Rated Temperature / Temperatura nominale	20 - 50°C		
Maximum Head / Carica di esercizio	10 m		
Rated Temperature / Temperatura nominale	20 - 50°C		
Power Supply / Alimentazione elettrica	230V / 50Hz	115V / 60Hz	80V / 50Hz
Max. Allowed Current / Max. corrente ammessa	1.1 A	1.7 A	0.7 A
Portability connector with 1 Outlet / Collegamento al tubo di uscita 1 uscita	G 1/2" / 15.1 mm		



SERIES MTP600 PERIPHERAL PUMP Pompa periferica



NOTES:

- Single phase induction motor (230V - 200Watt / 230V - 200Watt)
- 50Hz
- Capacitor 5.5 µF
- Thermal protection 140 °C
- Motor Power Consumption 250 W
- Thermal insulation Class F
- Fan cooled

For additional or various phase contact see technical documents.

A. MOTORE:

- Motor insulation an induction (230V - 200Watt / 230V - 200Watt)
- 50Hz
- Capacitor 5.5 µF
- Automatic thermal 140 °C
- Average maximum possible 250 W
- Class of insulation Class F
- Self-cooling of all motor parts

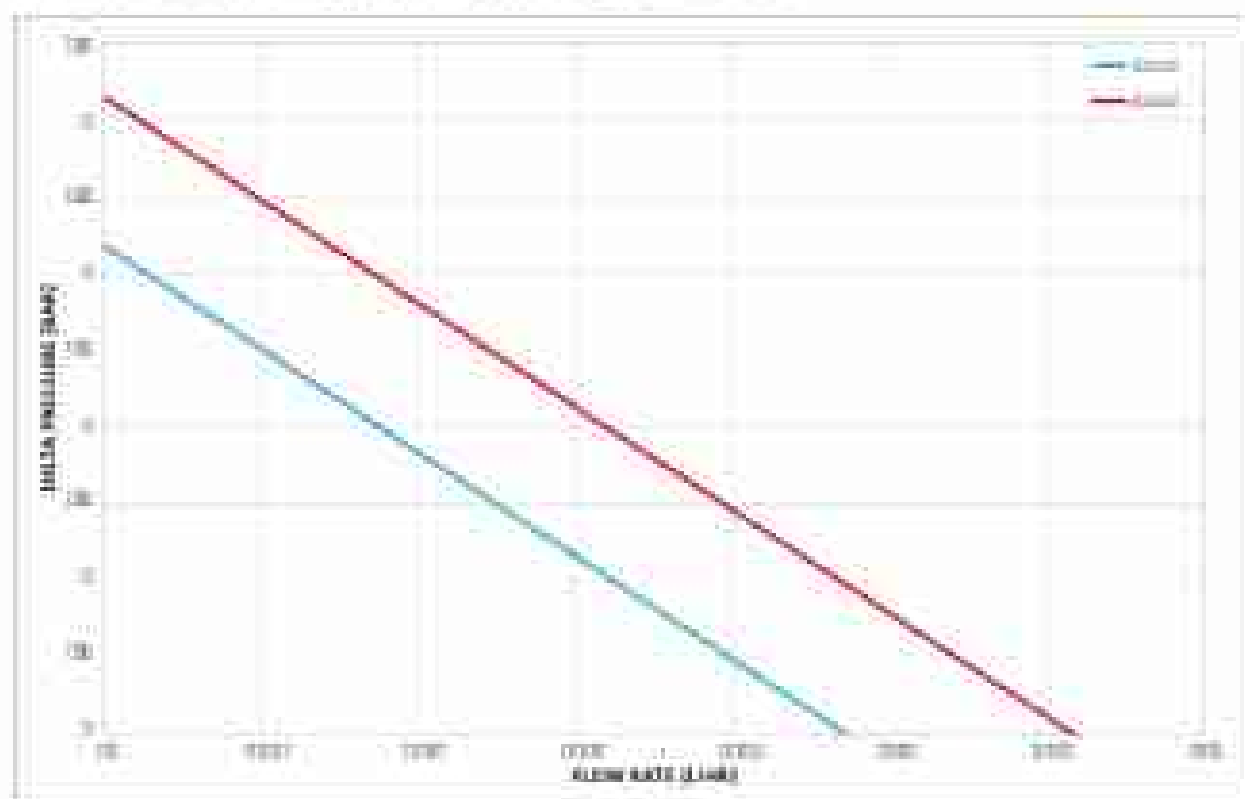
Per ulteriori informazioni e prezzi visitate il nostro sito www.cetme.it

WORKING CONDITIONS:

- Ambient: 7° / 20° / 30° °C
- Fluid: 7° / 30° / 50° °C (maximum 90° °C)
- Duty: Cyclic (maximum 100%, 100% TD) continuous up to 4 bar (200%) - maximum 4 bar
- Suitable for seawater and low conductivity fluids
- For different working conditions please contact our technical department.

CONDIZIONI DI LAVORO:

- Temperatura ambiente: 7° - 20° - 30° °C
- Temperatura fluido: 7° / 30° / 50° °C (massima 90° °C)
- Duty: Ciclo (massima 100%, 100% TD) continuo fino a 4 bar (200%) - massima 4 bar
- Adatti per l'uso con acqua e fluidi fluidi conduttività bassa
- Per le diverse condizioni di lavoro e prezzi visitate il nostro sito www.cetme.it



NOTE: Hydraulic characteristics obtained with water at 20°C at pump nominal speed.
Working tolerance on hydraulic and electrical characteristics is ± 10%.

NOTA: Caratteristiche idrauliche ottenute con acqua a 20°C alla velocità nominale.
Tolleranza lavorativa su idrauliche e caratteristiche elettriche è ± 10%.

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PRESSURE SWITCHES / Pressostati



Water

Energy

Air conditioning

Green

Security

Power

People

Industry

Home

SPECIFICATIONS / CARATTERISTICHE

Series	Model	Connection	Max. Press. Bar	Media	Working pressure Bar	Maximal pressure Bar	Maximal flow l/min	Differential switch Bar	Differential switch Bar	Max. diff. voltage	Body material
Series Accessories	Model	Connection	Temperature °C	Media	Working pressure Bar	Maximal pressure Bar	Maximal flow l/min	Differential switch Bar	Differential switch Bar	Max. diff. voltage	Body material
PC	S110	1/4"	80°C	Water, glycol, oil, inert gas	0.2	0	5	0.2 - 1.6	0.2 - 1.6	96 V / 4 200 V	Polypropylene NBT 1002
			140°C	Steam	0.2	0.2					
	S111	1/2"	80°C	Water, glycol, oil, inert gas	0.2	0					
			140°C	Steam	0.2	0.2					
	S112	3/4"	80°C	Water, glycol, oil, inert gas	0.2	0					
			140°C	Steam	0.2	0.2					
	S113	1"	80°C	Water, glycol, oil, inert gas	0.2	0					
			140°C	Steam	0.2	0.2					
	S114	1 1/4"	80°C	Water, glycol, oil, inert gas	0.2	0					
			140°C	Steam	0.2	0.2					
	S115	2"	80°C	Water, glycol, oil, inert gas	0.2	0					
			140°C	Steam	0.2	0.2					

HYDRAULIC CONNECTION KEYS - RIFRESCO RIFERIMENTO IDRAULICO

Model S112 1/4" GAS	Model S115 1/2" GAS	Model S110 1/4" CONDU	Model S121 1/4" connection Ø 9 mm	Model S125 1/2" connection Ø 12.5 mm



HIGHNOTE

- Rubber connection
- Operating pressure range: 0.1 - 2.5 bar
- Adjustable hydraulic
- Max flow: 200 l/min

RESEARCH DESIGN

The positive effect of the PE intervention is hardly new for near-chronic treatment studies, including antidepressant and lithium. The study's authors note that, generally, the treatment of adults occurred by the seventh week.

INTERNATIONAL ASSOCIATED

Il modello di riferimento per la valutazione della qualità dei servizi è quello proposto dalla rete ANAS (Associazione Nazionale Amministrazioni Sanitarie) e dalla ANAS (Associazione Nazionale Amministrazioni Sanitarie) e dalla ANAS (Associazione Nazionale Amministrazioni Sanitarie).

Abstract

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FUSION SWITCH LIFE

The program is subject to a 50% effort requirement. The fee for the program is \$1,000. The program is subject to a 50% effort requirement. The fee for the program is \$1,000. The program is subject to a 50% effort requirement. The fee for the program is \$1,000.

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ПОСЛАДА ДИНА ПЕРИОДА

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THE UNIVERSITY OF CHICAGO

[illegible]

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

Model 6413-6413 10" (254)	Model 6411-6411 10" (254)	Model 6421-6421 12" (305)	Model 6420-6420 12" (305)



REFERENCES

- No air bleed connection
- Operating pressure range: 0.1 - 0.5 bar
- Adjustable, hydraulic
- Max fluid temp: 150°C

PRODUCT DESCRIPTION

The primary evidence of the M1 series are highly used for better working systems and other small facilities. Hydrolytic expansion, condensing and heating systems (small boilers). The "M1" pressure control membrane is made of high quality steel. It is comparable with several types of pressure or liquid tanks with a max. temperature of 150°C. The microsystem condensing operated by a laser, the movement of which is caused by the thermodynamic expansion. Made of steel or other thermodynamic material. It has high

doi:10.1017/S0022292412001709

[illegible]

GENERAL READER'S DISCREETION WARNING

[illegible]

Only 30°C. No calibration curve was obtained by HPLC for pure HT. Immediately before use, HT was dissolved in 100% MeOH at 30°C and the solution was cooled to 20°C. A calibration curve was obtained.

PAPER NO. 90-107

The authors thank Dr. H. J. van den Hul for his contribution to the development of the model. The authors also thank Dr. H. J. van den Hul for his contribution to the development of the model.

closed on Monday

La dipendente dichiarata in sede di accertamento dell'attività lavorativa, iscritta alla previdenza sociale (INPS), è considerata e viene pagata come se fosse un'operaia per gli standard di costo di lavoro (INPS per gli standard) (INPS). Questo è quanto stabilito dalla legge n. 30 del 28.2.1998, art. 10, comma 1.

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Sample	Frequency	Amplitude	Max. Duty Cycle	Media	Operating pressure (bar)		Frequency	Differential frequency (Hz)	Differential Amplitude (bar)	Max. Duty Cycle	Test outcome
Test procedure	Hz	mm	Temperature (deg. C)	Fluid	Range (maximum value)		Hz	Differential duty bar	Differential amplitude (bar)	Voltage (volts)	Display (code)
PL	5000	1.00	155°C	Water, distilled or de-ionized, 20ppm	0.2	0	0	0.5 - 0.6	0.2 - 0.3	0.75 - 1.00 V	Pass/Fail/Err
	5000	0.10	155°C		0.2	0					
	5000	0.01	155°C		0.2	0					

1000

[illegible]

SPECIFICATIONS / CARATTERISTICHE												
Series	Model	Input signal	Max. output	Max. pressure (Bar)	Max. pressure (Bar)	Voltage input	Voltage output	Connection	Material plates	Temperature Application	Fluid	
Serie	Modello	Segnale di ingresso	Segnale massimo	pressione massima Bar	pressione massima Bar	Tensione d'alim.	Tensione uscita	Connessioni	Materiali	Temperatura fluidi	Fluidi	
PE	modulare	0...10	0...100	5	5	5 V	0...2,5 V	Crimpatori	Polietilene HDPE-622	-50°C	acqua grassi, oli, acidi, gas	
							0...5 V					
							0...10 V					
		0...10	0...100		5	5 V	0...2,5 V					
							0...5 V					
							0...10 V					
		0...10	0...100		5	5 V	0...2,5 V					
							0...5 V					
							0...10 V					
		0...10	0...100		5	5 V	0...2,5 V					
							0...5 V					
							0...10 V					
		0...10	0...100		5	5 V	0...2,5 V					
							0...5 V					
							0...10 V					



SAFETY VALVES / Valvole di sicurezza



Hand tool

Vertical pipe

Horizontal pipe

Eye

Camera

Control panel

Person working

Factory

House

HIGHLIGHTS

- Safety valves with 8 mm
- Safety valves only brass
- Straighten safety valves - safety valve service
- Safety discharge valves

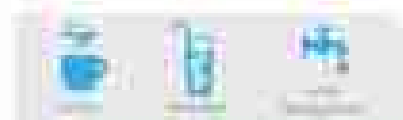
PRODUCT DESCRIPTION

Our safety valves have been designed mainly for thermal heating systems used for professional heating systems. They are suitable for water steam pressure. The straighten safety valves have been designed in order to integrate a spring force that prevent a potential dangerous situation, with a constant safety valve. The particular check device is included in the pressure gauge, thus enabling the constant operation with a higher pressure than 0.5 bar (0.7 bar). When the pressure is then decreased, the valve cannot be unseated and the pressure inside the safety gauge is below 0.20 or 0.15 bar.

DESCRIZIONE PRODOTTO

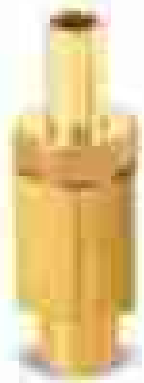
Le valvole di sicurezza sono ideate per un utilizzo in impianti per riscaldamento a vapore e acqua. Sono adatte all'impiego per acqua, vapore e aria. Le valvole di sicurezza a molla sono per integrare la funzione di una normale valvola di sicurezza con la caratteristica di un ritorno automatico. Il ritorno automatico viene in funzione al verificarsi della anomalia (pericolosità) di oltre il corrispettivo di pressione da 0,5 bar (0,7 bar). Al diminuire della pressione la valvola non può essere sganciata. Per il ritorno la pressione all'interno non è al di sotto di 0,20 o 0,15 bar.

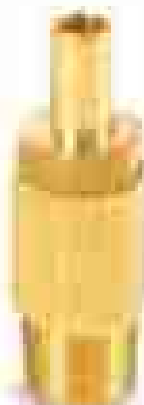
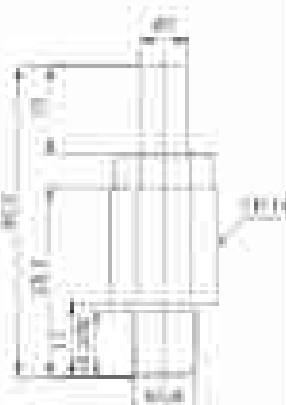
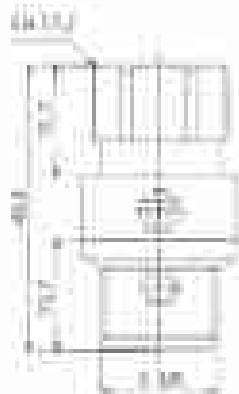
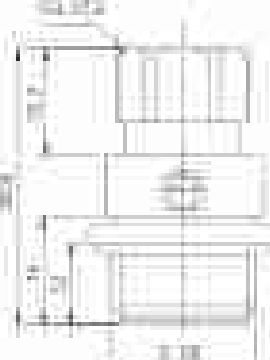
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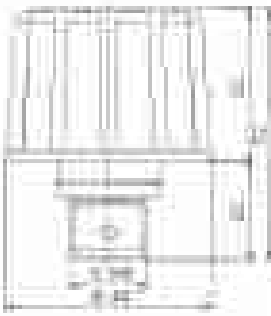
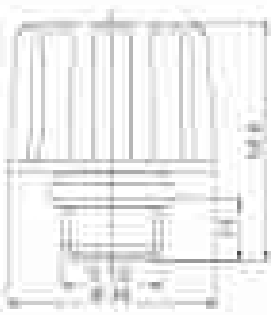


GENERAL MATERIAL CHARACTERISTIC SIMILAR

Body material / Materiale corpo	Brass
Stem / Stelo	Brass
Spring / Molla	Stainless steel 302
Seat / Sede	Stainless
Body / Corpo	100

Family	Product series	Model	Size	Max fluid temp.	Material	Mount position for	Mount position for
Series principle	Technical design	Accessories	8 class in operation	Temperature Resistance	Pressure	Discharge pressure	Discharge pressure
		Safety valve Series 11300	8 1/2	110°C	Water, steam, air, nitrogen, etc.	4	4
11300							

Modello	Disegno tecnico	Materiali	Velocità	Pressione di lavoro	Modello	Pressione di lavoro	Pressione di lavoro
Modello	Disegno tecnico	Materiali	Velocità	Pressione di lavoro	Modello	Pressione di lavoro	Pressione di lavoro
 11000			6.758	1000		1	1
 4110		Safety valve disegno di sicurezza	6.758	1000	1000 disegno di disegno di disegno di	1	1
 4114			6.758	1000		1	1

Model	Technical drawing	Material	Size	Max. fluid temp.	Media	Max. set pressure bar	Max. set pressure bar
Modelli	Disegni tecnici	Materie	Dimensioni nominali	Temperatura massima fluido	Media	Pressione massima bar	Pressione massima bar
 8110			0,38				
 8110		Safety valve Type 81 vertical	0,75	180°C	Not suitable for steam, air and oil	6	6
 8110			0,38 horizontal				



ACCESSORIES / Accessori



Utensili



Batterie



Accessori
ventilazione



Visori



Telecamere



Archiviazione



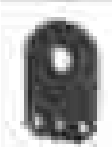
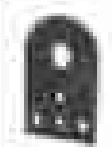
Produttività



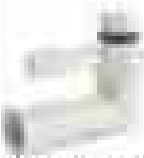
Prodotti finiti

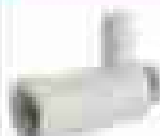
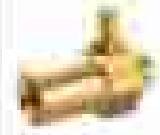
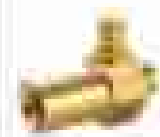


Residenze

ART.	DESCR.	APPLICAZIONE	NOTE
 122004	Three pole plug connector LINE 100-440V 50Hz 40000 A - IP65 Connettore a spina LINE 100-440V 50Hz 40000 A - IP65	On all products Su tutti i prodotti	Including cable and seal include la vite e la guarnizione
 122004	Three pole plug connector LINE 100-440V 50Hz 40000 A - IP65 Connettore a spina LINE 100-440V 50Hz 40000 A - IP65	On all products Su tutti i prodotti	Including cable and seal include la vite e la guarnizione
 401042	Pump support / vibration absorber Supporto pompa / antiridurante	CETME LINE 1 series	-
 401040	Pump support / vibration absorber Supporto pompa / antiridurante	CETME LINE 10 series	-
 401042	Pump support / vibration absorber Supporto pompa / antiridurante	CETME LINE 1 series	-
 401039	Pump support / vibration absorber Supporto pompa / antiridurante	CETME LINE 1 series	-
 10010	Pump support / vibration absorber - STANDARD Supporto pompa / antiridurante STANDARD	CETME 1400 series / 1512, 1507, 1508, 1512, 1514	-
 100101	Pump support / vibration absorber - STANDARD Supporto pompa / antiridurante STANDARD	CETME 1400 series / 1512, 1507, 1508, 1512, 1514	-
 10010	Pump support / vibration absorber Supporto pompa / antiridurante	1501, 1507, 1508, 1512, 1514	0.10A" and 0.075A"

REF.	DESCR.	APPLICAZIONE	NOTE
 12330	Pump support / vibration absorber Supporto pompe / antivibrante	ES01, ES07, ES09, ES11, ES14	G 1/4" and NPT 1/8"
 12370	Pump support / vibration absorber Supporto pompe / antivibrante	ES17 HA, ES04, ES05, ES13	—
 12400	Pump support / vibration absorber Supporto pompe / antivibrante	ES17 HA, ES04, ES05, ES13	—
 10001	Pump fitting 90° - ET 500-588 Raccordo 90° per pompe - ET 500-588	G 1/2" (mm)	—
 1701604	Pump fitting - brass Raccordo 90° in ottone	3/4" (mm)	Suction connection, full direct to water supply network Raccordo 1/2" per collegamento diretto alla rete idrica
 801633	Black pump fitting - PVC Raccordo a grinta per pompe - P05E120	CENE UREA 3/4" (mm)	—
 801647	Black pump fitting - PVC Raccordo a grinta per pompe - P05E120	CENE UREA 1/2" (mm)	—
 802040	Black pump fitting - PVC Raccordo a grinta per pompe - P05E120	CENE UREA 1/4" (mm)	—
 901000	Pump fitting 90° - GHTA G 1/8" Raccordo 90° per pompe - GHTA G 1/8" Ritraggimento Ø 6 mm	CENE UREA pumps with 1/8" delivery (ET 500-588) Pompe CENE UREA con attacco idrica G 1/8"	To be connected with OR 2025 "Whisper" with OR 2024

ART.	DESCR.	APPLICAZIONE	NOTE
 112112	Pump fitting - OUTLET - G 1/8" - Hose barb Ø 8 mm Raccordo - USCITA - G 1/8" - Forca gomma Ø 8 mm	CETME water pumps with 1/8" delivery port (OUTLET) Pompe CETME acqua con attacco porta G 1/8"	To be installed with OR 2023 da installare con OR 2023
 115244	Pump fitting - OUTLET - G 1/8" - Hose barb Ø 8 mm Raccordo - USCITA - G 1/8" - Forca gomma Ø 8 mm	CETME water pumps with 1/8" delivery port (OUTLET) Pompe CETME acqua con attacco porta G 1/8"	To be installed with OR 2023 da installare con OR 2023
 DEACAL 110W	Self priming valve Ø 1" - valvola autoaspirante a gettoni Ø 1"	€ 300	-
 DEACAL 1	Self priming valve valvola autoaspirante	€ 100	-
 DEACAL 1/2	Self priming valve Ø 1/2" - valvola di autoaspirante a gettoni Ø 1/2"	€ 100	-
 DEAL 100	Self priming valve valvola di autoaspirante	€ 5000 +	-
 DEACAL 1/2	Self priming valve valvola di autoaspirante	€ 500	-

ART.	DESCR.	APPLICAZIONE	NOTE
 00ACAL	Self priming valve valvola di autoaspirazione	1/2 inch	
 00AD08	Self priming valve - 3/4 inch valvola di autoaspirazione - 3/4 inch	3/4 inch	
 10020901	Self priming valve 1 inch valvola di autoaspirazione 1 inch	1 inch	Flange fitting. To be mounted with OR 2025. Raccordi a flange. Montare con OR 2025.
 10020902	Self priming valve 1 1/8 inch valvola di autoaspirazione 1 1/8 inch	1 1/8 inch	Flange fitting, verification of the installation pressure in the boiler. To be mounted with OR 2025. Raccordi a flange. verificare della pressione d'installazione in caldaia. Montare con OR 2025.
 10021000	Self priming valve 1 1/2 inch valvola di autoaspirazione 1 1/2 inch	1 1/2 inch	To be mounted with OR 2025. Montare con OR 2025.
 10021400	Self priming valve 2 inch valvola di autoaspirazione 2 inch	2 inch	Verification of the installation pressure in the boiler. To be mounted with OR 2025. Con funzione di verifica della pressione d'installazione in caldaia. Montare con OR 2025.
 10021500	Self priming valve - (registered safety valve) 2 1/2 inch valvola di autoaspirazione - (valvola di sicurezza registrata) 2 1/2 inch	2 1/2 inch	Verification of the installation pressure in the boiler. To be mounted with OR 2025. Con funzione di verifica della pressione d'installazione in caldaia. Montare con OR 2025.

ART.	DESCR.	APPLICAZIONE	NOTE
 10022003	Safety valve valve 348 Valvola di sicurezza 348	348CEP	Removal of the atmospheric pressure in the boiler. To be mounted with OR 2003. Con l'apertura si svuota della pressione atmosferica la caldaia. Montare con OR 2003.
 101401	Thermal protector Termoprotettore	348CEP 348CEP	120 90°C
 101204	Thermal protector Termoprotettore	348CEP 348CEP	120 90°C
 101206	Thermal protector Termoprotettore	348CEP 348CEP	120 100°C
 34018	Air vent for 348CEP Ventola in alluminio 348CEP	348CEP	Ø 114 - 27°
 34019	Air vent for 348CEP Ventola in alluminio 348CEP	348CEP	Ø 112 - 27°

ART.	DESCR.	APPROX. QUANT.	UNITA'
 54000	Aluminum for 5407000 Vite in alluminio PREVENT	540000	Ø 200 - 10"
 54001	Aluminum for 5407001 Vite in alluminio PREVENT	540000	Ø 154 - 31"
 54002	Aluminum for 5407002 Vite in alluminio PREVENT	540000	Ø 132 - 27"
 54003	Aluminum for 5407003 Vite in alluminio PREVENT	540000	Ø 200 - 10"
 54004	Aluminum for 5407004 Vite in alluminio PREVENT	540000	Ø 132 - 31"
7100	Rubber cap to cover pressure switch connections Cappuccio in gomma per i terminali del pressostat	Pressure Switch PC - PB - PR	-
20000	Plastic filter, protection (white) Filtro in plastica (bianco)	Pressure Switch PC - PB - PR	-

Code Codice	PAG.
SERIES V3	14/15
SERIES V7 COFFEE	16/17
SERIES V3/V7 WATER	16/21
SERIES VD	22
SERIES 22	23
SERIES 44	26/25
SERIES 52	26
SERIES 52	27
SERIES 55	28/29
SERIES 59	30
SERIES 61	31
SERIES 62	32
SERIES 65	33
SERIES 66	34/35
SERIES 67	36
SERIES 67	37
SERIES 68 AD	38/39
SERIES 83	40
SERIES 84	41
SERIES 85	42
SERIES 86	43
SERIES 87	44
SERIES 88	45
SERIES 90	46
SERIES 89	47
SERIES 93 CM	48
SERIES 99	49
SERIES 99 BW	50

Code Codice	PAG.
SERIES 1300	51
SERIES 520	52/53
SERIES 530	54/55
LATCHING PILOT	56/57
PILOT V/OO	58/59
WATER VALVE	60/67
SANITARY	68/71
SERIES F	76
SERIES F HIGH FLOW	77
SERIES NME	78
SERIES NMEHF	79
SERIES HF	80
SERIES E500 HP	81
SERIES E1000 HP	82
SERIES E500 FM	83
SERIES E150	84
SERIES E300	85
SERIES E400	86
SERIES E100	87
SERIES E1300	88/89
MTF700	93/93
SERIES MTF900	94/95
SERIE PC	96/96
SERIE PB	100/101
SERIE PM	102/103
SERIE PE	104/105
SAFETY VALVES	106/111
ACCESSORIES	116/119

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