

Safety valve type CMVX 2.. with unit approval



as cartridge valve for installation in simple tapped holes

Operating pressure $p_{max} = 500$ bar; Flow $Q_{max} = 28$ lpm

These safety valves are intended for accumulators in hydraulic circuits, covering the following regulations:

- Pressure device regulation 97/23 EC, 2014/68/EU Art. 13 to 18.07.2016, 2014/68/EU from 19.07.2016
- Operational safety regulation date 01.06.2015 / Use of Work Equipment Directive 2009/104/EG
- AD regulations 2000, sheet A2 (latest release)

1. General

The safety valve is designed as cartridge valve, which is screwed into simply shaped tapped holes (M 20x1.5) at a manifold body. The sealing of the inlet to outlet takes place at the contact area between the facial sealing edge of the screwed-in end of the valve body and the stepped shoulder of the core diameter at the location thread. Any standard steel drill (point angle 118°) automatically forms this stepped shoulder when the core diameter is drilled. Therefore reaming of the hole and bevels to help the seals slip in are not necessary.

The sealing of the attached valve and its fixing at the manifold body is via a sealing nut with a special thread seal and an O-ring.

Selection in the table below is via the intended pressure setting, where the valve should respond (observe pressure range) and the required flow (within the perm. flow rate), depending on the pump delivery flow of the system.

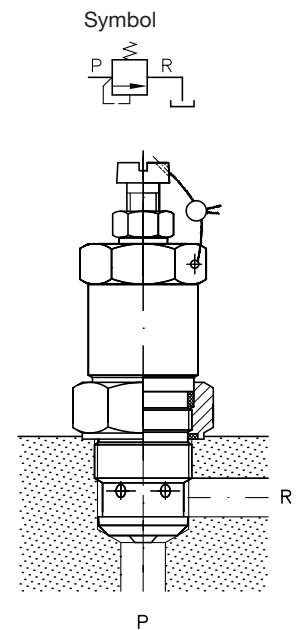
The desired pressure setting has to be stated at the end of the order coding as the valve will be set accordingly before it is lead sealed at HAWE. This setting will be also integrated in the unit approval No. stamped on the valve body.

2. Available versions, main data

Selection in the table below is via the intended pressure setting (pressure range) and the intended flow (perm. flow).

The desired pressure setting has to be stated at the end of the order coding as the valve will be set accordingly before it is lead sealed at HAWE. This setting will be also integrated in the unit approval No. stamped on the valve body.

Type, coding	Permissible flow $Q_{perm.}$ (lpm)	Pressure range $p_{min} \dots p_{max}$ (bar)	Unit approval coding TÜV.SV.14 - 983 .4.F. G. p
CMVX 2 G	15	20 ... 40	TÜV.SV.14 - 983 .4.F. 15. ...
	18	41 ... 65	TÜV.SV.14 - 983 .4.F. 18. ...
CMVX 2 F	23	66 ... 90	TÜV.SV.14 - 983 .4.F. 23. ...
	20	91 ... 110	TÜV.SV.14 - 983 .4.F. 20. ...
CMVX 2 E	22	111 ... 130	TÜV.SV.14 - 983 .4.F. 22. ...
	28	131 ... 170	TÜV.SV.14 - 983 .4.F. 28. ...
CMVX 2 C	16	171 ... 200	TÜV.SV.14 - 983 .4.F. 16. ...
	20	201 ... 260	TÜV.SV.14 - 983 .4.F. 20. ...
CMVX 2 B	28	261 ... 350	TÜV.SV.14 - 983 .4.F. 28. ...
	12	351 ... 395	TÜV.SV.14 - 983 .4.F. 12. ...
CMVX 2 B	16	396 ... 430	TÜV.SV.14 - 983 .4.F. 16. ...
	20	431 ... 500	TÜV.SV.14 - 983 .4.F. 20. ...

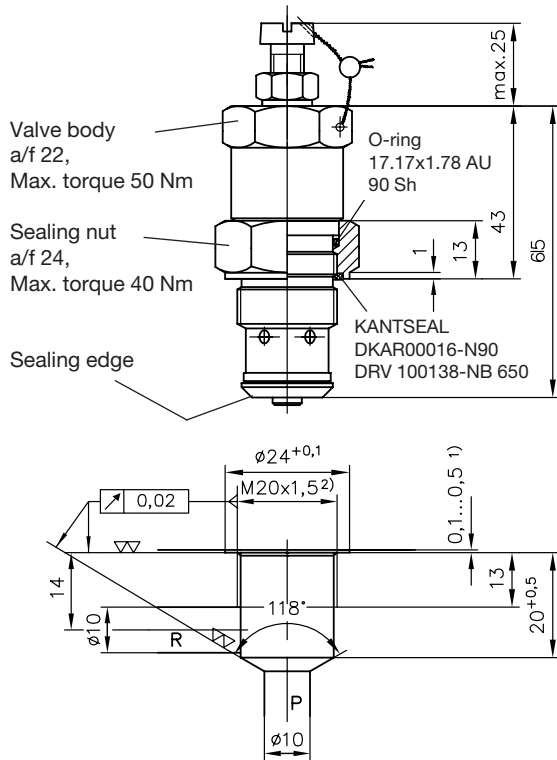


3. Further parameters

Nomenclature, design	Directly acting pressure limiting valve, seated cone design
Installed position	Any
Installation	Screwed in and locked in customer furnished manifolds. See also notes regarding the installation in sect. 5
Weight	0.16 kg
Flow direction	P→R; P = pump, R = return (pressure less)
Pressure fluid	Hydraulic oil acc. to DIN 51524 table 1 to 3; ISO VG 10 to 68 conf. DIN 51 519 Also suitable are biologically degradable pressure fluids of the type HEPG (Polyalkylenglycol) and HEES (synth. Ester) at operation temperature up to approx. +70°C.
Oper. viscosity	Approx. 12 ... 230 mm ² /s
Contamination rating	21/18/15 conf. ISO 4406
Temperature	Ambient: approx. -40...+80°C; Fluid: -20...+80°C, pay attention to the viscosity range! See also D 5488/1 sect. 3. Biological degradable pressure fluids: Pay attention to manufacturer's information. With regard to the compatibility with sealing materials do not exceed +70°C.
Static overload capacity	2 x p_{max}

4. Unit dimensions

All dimensions in mm, subject to change without notice !



Mounting holes in the manifold may be blocked if required by tapped plugs, e.g. if uniform manufactured manifolds should be equipped with or without cartridge valve depending on application. For suited tapped plugs, see sect. 4.4 in D 7710 (pressure limiting valves type CMV 2)

Mounting hole in customer furnished manifolds. Observe the notes stated in sect. 5!

- 1) Counter sinking
- 2) Diameter max. $\varnothing 20^{+0.2}$

5. Notes assembly, operation and maintenance

Manifold

The flow direction (see sect. 2 „Available versions, main data“) is mandatory and has to be observed when designing the manifold. The max. figures for pressure and flow (see table in sect. 2) apply to pressure less return to the tank. This has to be kept in mind during the design of the manifold where the valve type CMVX is to be installed, i.e. the back pressure in gallery R has to be kept at a minimum as it will add to the pressure setting. Therefore gallery R should be dimensioned sufficiently and routed to the tank without any detours.

It is better to supply a separate pressure less gallery, when the perm. flow ratings Q_{perm} are employed with valve versions CMVX 2 G and E in their lowest pressure rating (20 ... 40 and 91 ... 110) and not to connect R with the general return gallery of the circuit as increased back pressure is to be anticipated.

Installation and testing

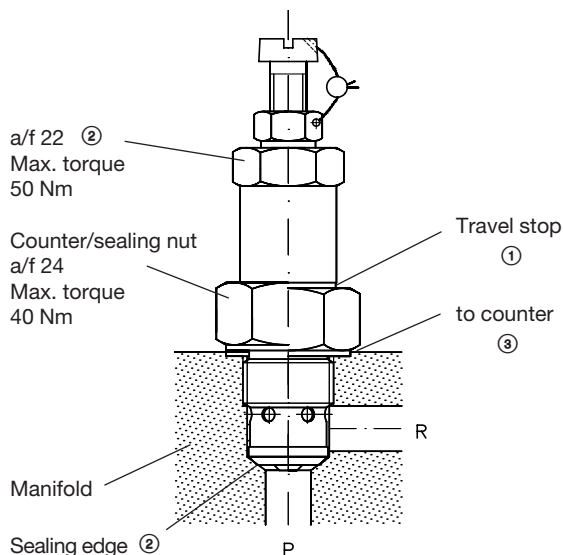
The mounting of the safety valves has to be undertaken with special care. The regulations stated in the pressure device regulation have to be observed. The regular check routines depend on the regulations for safety valves and systems in your country. The max. torque specifications for the cartridge valve type CMVX must not be exceeded, see „Unit dimensions“ and illustration in sect. 4.

The valve should be installed at a well protected spot or an additional protective cover should be provided to prevent external damage.

Care has to be taken that no contamination enters the valve during installation and operation.

The contamination class stated in sect. 3 „Additional parameter“ must not be exceeded !

Screw-in and locking



① Before screwing the valve body into the manifold loosen the counter/sealing nut until the travel stop.

② Screw in the valve body (a/f 22) and tighten with the correct torque (50 Nm). Take care that the lead seal is not damaged !

The metallic sealing of the inlet P to the outlet R takes place at the contact area of the facial sealing edge with the stepped shoulder of the core diameter at the location thread.

③ Retighten the counter/sealing nut (a/f 24) with the correct tightening moment (40 Nm) .



Industrie Service

CERTIFICATE

The Certification Body of
TUV SUD Industrie Service GmbH,
a Notified Body of the Pressure Equipment Directive (PED),

certifies that

HAWE Hydraulik SE
Streitfeldstraße 25
81673 München, Germany

with the production plant
85356 Freising, Kulturstraße 44, Germany

implemented, operates and maintains a quality assurance system as described in the Pressure Equipment Directive (97/23/EC) Annex III, Module D

for the scope of

production of directly acting spring loaded safety valves for hydraulic fluids

acc. to EC Type-Examinations

The audit with the report number IS-DDB-MUC-Q-031-13 proves that the quality assurance system fulfills the PED requirements.

The manufacturer is authorized to provide the pressure equipment produced within the scope of the assessed quality assurance system with the following Notified Body number:

CE 0036

Certificate No.: DGR-0036-QS-843-13

valid until August 11th, 2016

Mannheim, July 10th, 2013

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13. Juli 2013
Manfred John

Notified Body No.: 0036
Member of
CONFEDERATION EUROPEENE



D'ORGANISMES DE CONTROLE



TUV SUD Industrie Services - PED-QA-Certification Body - 68167 Mannheim - Germany

ZERTIFIKAT ◆ CERTIFICATE ◆ CERTIFICADO ◆ CERTIFIKAT ◆ ZERTIFIKAT



ZERTIFIKAT CERTIFICATE

(Konformitätsbescheinigung) / (of conformity)
EG-Baumusterprüfung

nach Richtlinie 97/23/EG / according to directive 97/23/EC
Zertifikat-Nr.: 07 202 1042 Z 0463/13/D

Name und Anschrift des Herstellers
HAWE Hydraulik SE
Streitfeldstraße 25
D-81673 München

Hiermit wird bescheinigt, dass das unten genannte EG-Baumuster die Anforderungen der Richtlinie 97/23/EG erfüllt. We hereby certify that the type examination mentioned below fulfills the requirements of directive 97/23/EC.

Gepprüft nach Richtlinie 97/23/EG
Tested according to 97/23/EC

Prüfbericht-Nr.: / Test report No.:
1042 P 0463/13/D

Beschreibung des Baumusters
(Druckgerät):
Description of type (pressure equipment):
Sicherheitsventil
direct-acting, spring-loaded
(Type CMX 2, Einstellgröße 4 (Einschraubventil))
for hydraulic fluids (pressure equipment)
Einstelldrucke zwischen 20 und 500 bar
Temperaturen zwischen -20°C und 80 °C

Fertigungsstätte/Place of manufacture:
HAWE Hydraulik SE,
Streitfeldstraße 25, D-81673 München
01.10.2022

Gültig bis/ valid until:

Zertifizierungsstelle für Druckgeräte
der TÜV NORD Systems
GmbH & Co. KG
Dipl.-Ing. A. Hoyer
Benannte Stelle/ Notified Body, 0045

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