

PRODUCT MANUAL

Solenoid Valve

T-MVD.../5
T-MVDLE.../5
T-MB-ZRD(LE)405-412 B01
T-DMV/11 eco
T-DMV-D/11 (eco)
T-DMV-DLE/11 (eco)
T-MB-D(LE)405-412 B01



Solenoid Valve T-MVD(LE)

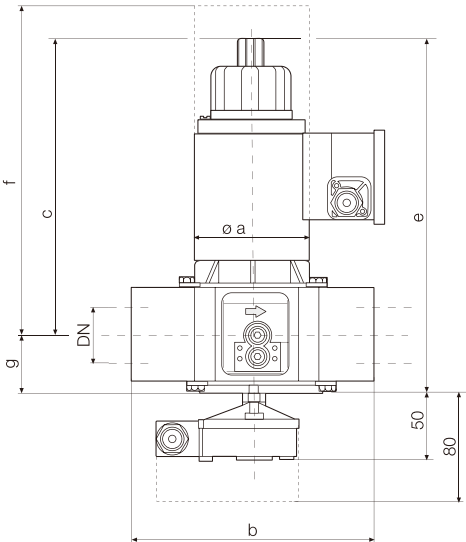
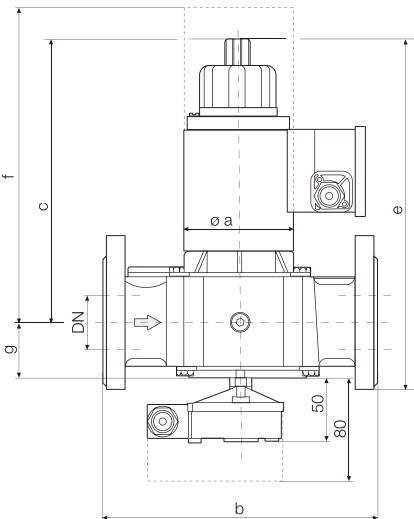
Operation and assembly instructions.

Solenoid valve
Single-stage operation
Type T-MVD.../5
Type T-MVDLE.../5
Nominal diameters
Rp3/8–Rp2 ½
DN20–DN100

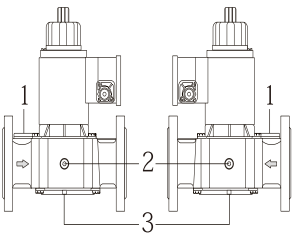


Dimensions/[mm]

d= Max.width

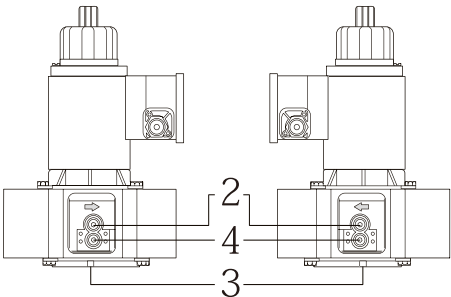


Pressure test points



1
Only flange version available
from DN 25

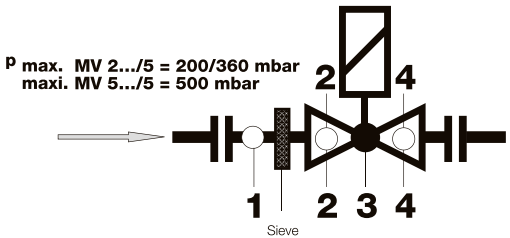
Sealing screw
G3/4DINISO228



2
Sealing screw
G1/4DINISO228

3
Connection for C.P.I./
K01/1

Sealing screw
G1/8DINISO228



4
Rp1/2 – Rp2
Only threaded version

deckel,optional/Bypass port
under cover,optional

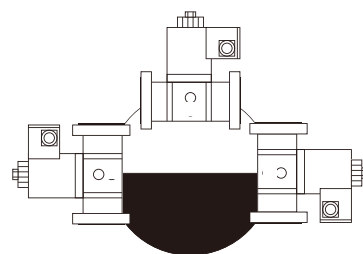
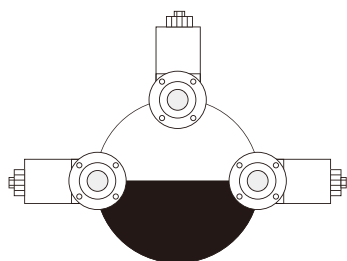
Type	p _{max.}	DN/Rp	Solenoid-No.	P _{max.} [VA]	I _{max.} ~(AC) 230V	Opening time	Dimensions/ [mm]						
							a	b	c	d	e	f	g
T-MVD203/5	360	Rp3/8	100	17	0,08	<1s	50	60	90	60	113	140	23
T-MVD205/5	360	Rp1/2	100	17	0,08	<1s	50	80	90	75	113	150	23
T-MVD207/5	360	Rp3/4	200	30	0,15	<1s	75	100	135	85	160	190	25
T-MVD210/5	360	Rp1	200	30	0,15	<1s	75	110	135	90	165	200	30
T-MVD212/5	360	Rp1 ¼	280	60	0,26	<1s	80	150	170	116	215	255	45
T-MVD215/5	200	Rp1 ½	280	60	0,26	<1s	80	150	170	116	215	255	45
T-MVD220/5	200	Rp2	300	65	0,30	<1s	95	150	170	116	215	260	50
T-MVDLE203/5	360	Rp3/8	100	17	0,08	ca.20s	50	60	135	75	155	190	20
T-MVDLE205/5	360	Rp1/2	100	17	0,08	ca.20s	50	80	135	75	155	200	20
T-MVDLE207/5	360	Rp3/4	200	30	0,15	ca.20s	75	100	165	85	190	190	25
T-MVDLE210/5	360	Rp1	200	30	0,15	ca.20s	75	110	165	90	200	190	25
T-MVDLE212/5	360	Rp1 ¼	280	60	0,26	ca.20s	80	150	205	116	245	255	40
T-MVDLE215/5	200	Rp1 ½	280	60	0,26	ca.20s	80	150	205	116	245	255	40
T-MVDLE220/5	200	Rp2	300	65	0,30	ca.20s	95	170	205	130	250	255	45
T-MVD503/5	500	Rp3/8	100	17	0,08	<1s	50	60	90	60	113	140	23
T-MVD505/5	500	Rp1/2	100	17	0,08	<1s	50	80	90	75	113	150	23
T-MVD507/5	500	Rp3/4	200	30	0,15	<1s	75	100	135	85	160	200	25
T-MVD510/5	500	Rp1	200	30	0,15	<1s	75	110	135	90	165	200	30
T-MVD512/5	500	Rp1 ¼	300	65	0,30	<1s	95	150	170	116	215	260	45
T-MVD515/5	500	Rp1 ½	300	65	0,30	<1s	95	150	170	116	215	260	45
T-MVD520/5	500	Rp2	400	100	0,48	<1s	115	170	190	130	235	300	45
T-MVDLE503/5	500	Rp3/8	100	17	0,08	ca.20s	50	60	135	75	155	190	20
T-MVDLE505/5	500	Rp1/2	120	25	0,11	ca.20s	50	80	150	75	170	220	20
T-MVDLE507/5	500	Rp3/4	200	30	0,15	ca.20s	75	100	165	85	190	190	25
T-MVDLE510/5	500	Rp1	250	26	0,12	ca.20s	75	110	190	90	220	213	30
T-MVDLE512/5	500	Rp1 ¼	300	65	0,30	ca.20s	95	150	205	116	245	255	40
T-MVDLE515/5	500	Rp1 ½	300	65	0,30	ca.20s	95	150	205	116	245	255	40
T-MVDLE520/5	500	Rp2	400	100	0,48	ca.20s	115	170	230	135	270	300	55
T-MVD2065/5	200	DN65	400	100	0,48	<1s	115	290	225	190	315	330	55
T-MVD2080/5	200	DN80	500	90	0,42	<1s	130	310	250	200	340	375	70
T-MVDLE2065/5	200	DN65	400	100	0,48	ca.20s	115	290	290	190	385	330	55
T-MVDLE5065/5	500	DN65	500	100	0,48	ca.20s	130	290	290	190	385	330	55
T-MVDLE2080/5	200	DN80	500	90	0,42	ca.20s	130	310	320	200	405	375	70
T-MVD5040/5	500	DN40	300	65	0,30	<1s	95	200	170	150	235	255	45
T-MVD5050/5	500	DN50	400	100	0,48	<1s	115	230	190	165	265	295	52
T-MVD5065/5	500	DN65	500	90	0,42	<1s	130	290	245	190	340	370	55
T-MVD5080/5	500	DN80	550	100	0,50	<1s	150	310	295	200	385	465	70
T-MVD5100/5	500	DN100	60E	80	7,5*	<1s	170	350	345	240	445	570	85

f = Space requirement for mounting solenoid

d= Max.width

*= formax.3s

Installation position



Electrical connection

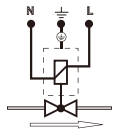
Grounding according to local regulations

IEC730-1 (VDE0631T1)

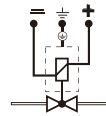
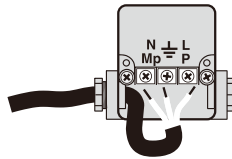
T-MV(D,LE).../5 Rp3/8

T-MVDLE5.../5

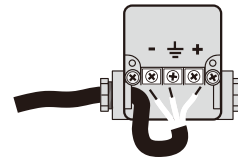
T-MVD(LE).../5 DN40-100



AC



DC

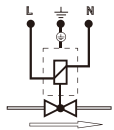
Electrical connection
(Spring clamp terminal)

Grounding according to local regulations

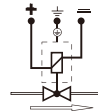
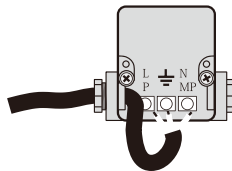
IEC730-1 (VDE0631T1)

T-MVD.../5 Rp1/2-2

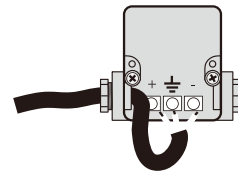
T-MVDLE2.../5 Rp1/2-2



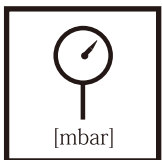
AC



DC

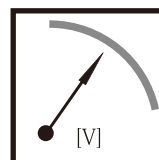


Please note: Use terminal compression sleeves for multi-core cables.

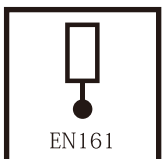


Max. operating pressure

T-MV...2.../5p_{max.} = 200/360mbar (20/36kPa)
T-MV...5.../5p_{max.} = 500mbar (50kPa)

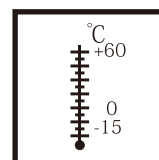


$U_n \sim (AC) 230V - 15\% + 10\%$
 or/ or/
 $\sim (AC) 110V - 120V, \sim (AC) 240V$
 $= (DC) 48V, = (DC) 24V - 28V$
 Switch-on duration
 /100%

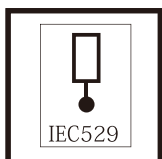


ClassA,Group2

nach/acc./
EN161



Ambient temperature
-15° C...+60° C

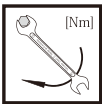


Degree of protection

IP54 nach/acc./
IEC529(DINEN60529)
Optional/Optional/
IP65



Family	1+2+3
	1+2+3



max.torque/System accessories	M3	M4	M5	M6	M8	G1/8	G1/4	G1/2	G3/4
	0,5Nm	2,5Nm	5Nm	7Nm	15Nm	5Nm	7Nm	10Nm	15Nm



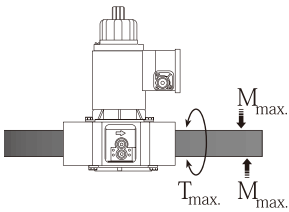
max.torque/Flange connection	M16x65(DIN939)	Setscrew
	50Nm	



Please use proper tools!

Tighten screws crosswise!

Do not use the device as a lever!



DN	--	--	20	25	40	50	65	80	100
Rp	3/8	1/2	3/4	1	1 1/2	2	2 1/2	--	--
[Nm]t ≤10s									
M _{max.}	70	105	225	340	610	1100	1600	2400	5000
[Nm]t ≤10s									
T _{max.}	35	50	85	125	200	250	325	400	400

Threaded version T-MV.../5
Mounting

- 1.Thread cutting
- 2.Use suitable sealing agent,refer to Fig.1.
- 3.Use suitable tool,refer to Fig.1.
- 4.Perform leak and functional tests after mounting.

Flange version T-MV.../5
Mounting

- 1.Insert bottom set screws
- 2.Insert seal.
- 3.Insert top set screws.
- 4.Tighten set screws.Refer to torque table.
Make sure that the seal is seated correctly
- 5.Perform a leakage and functional test after installation.

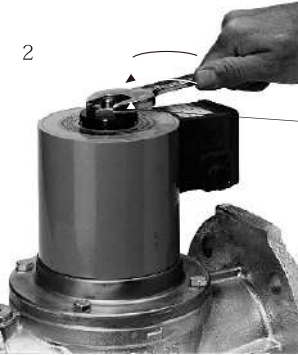


T-MVD.../5
Setting the main flow

1



2

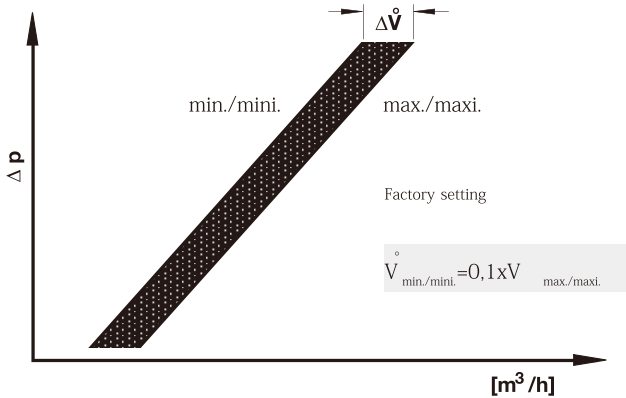


Loosen

3



Do not use excessive force!



ΔP

min./mini.

max./maxi.

Factory setting

$V^{\circ}_{\min./\min.} = 0,1 \times V_{\max./\maxi.}$

$[m^3/h]$

T-MVDLE.../5
Setting the main flow

Loosen screw



Do not use excessive force!



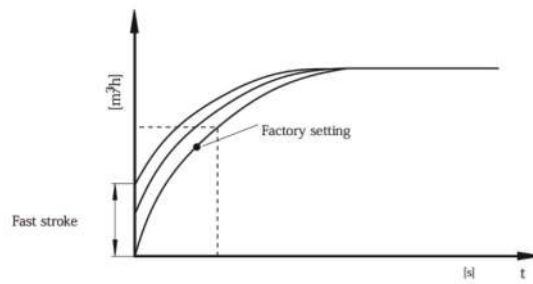
T-MVDLE.../5

Rapid stroke adjustment V start.

Factory setting T-MVDLE.../5:

Rapid stroke not adjusted.

1. Unscrew the adjustment cap D from the hydraulic brake.
2. Invert the adjustment cap and use it as a tool.
3. Turn counterclockwise to increase rapid stroke (+).



Replacing hydraulic brake unit

1. Switch off firing system.
2. Remove protective paint from countersunk screw A.
3. Unscrew counter sunk screw A.
4. Unscrew socket head screw B.
5. Raise hydraulic brake C.
6. Replace Hydraulic Brake C.
7. Screw in countersunk and socket head screws. Only tighten the socket head screw enough so that the hydraulic brake can still be turned.
8. Coat countersunk screws with locking varnish.
9. Perform a leakage test: Pressure tap at sealing plug 2:
T-MVD2: $p_{\max}=200/360\text{mbar}$
T-MVD5: $p_{\max}=500\text{mbar}$
10. Perform functional test.
11. Switch on firing system.



Changing solenoid T-MVDLE.../5

1. Remove hydraulic brake unit as described in Section "Replacing hydraulic brake unit", Items 1-5 on page 6.
2. Replace solenoid, note solenoid no. and voltage !
3. Remount hydraulic brake unit as described in Section 'Replacing hydraulic brake unit', Items 7-11 on page 6

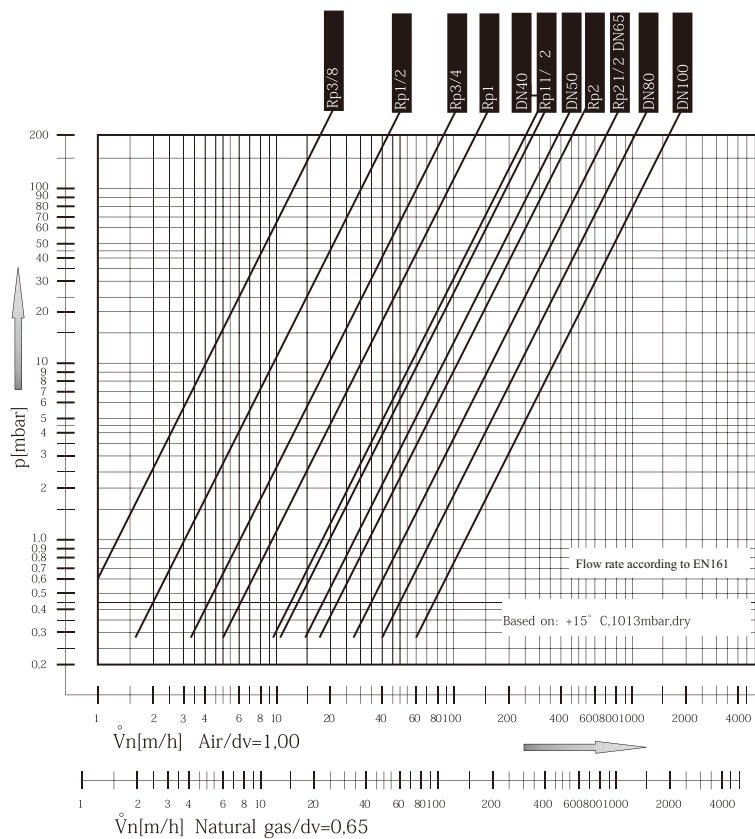


Replace solenoid T-MV.../5

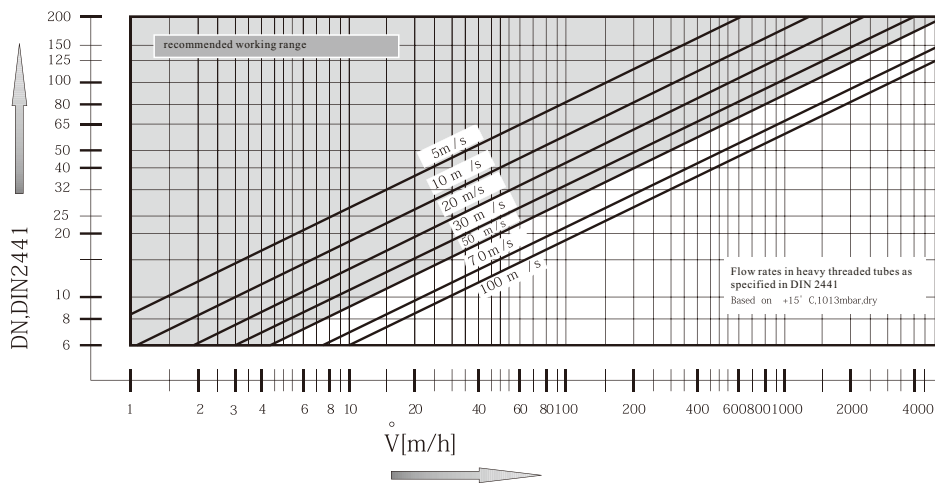
1. Remove dust cap A.
2. Replace solenoid.
Note solenoid no. and voltage!
3. Screw on dust cap A.



Flow Diagram



Flow rate/



$V_{\text{gas used}}$

$= V_{\text{air}} \times f$

Type of gas

Spec. Wgt.

dv

f

[kg/m³]

Nat. Gas

0.81

0.65

1.24

City gas

0.58

0.47

1.46

LPG

2.08

1.67

0.77

Air

1.24

1.00

1.00

f =

$$f = \sqrt{\frac{\text{Spec. weight air}}{\text{Spec. weight of gas used}}}$$