

TECNORD

SERVOCOMANDI E REGOLAZIONE

TDV 30 SERIES

DIRECTIONAL ON-OFF VALVE SYSTEM WITH PROPORTIONAL METER-IN CONTROL

Stackable Directional Control Valve

- Size 6
- Inlet section with 3 ways compensated meter-in control
- Fixed or variable displacement configuration
- 1 to 8 working sections in the same valve bank

Electro-hydraulic controls

- **OMD** Multi-function/ON-OFF solenoids

Manual control options

- **MO** Push pin manual override
- **LM** Manual control lever

Principle of operation

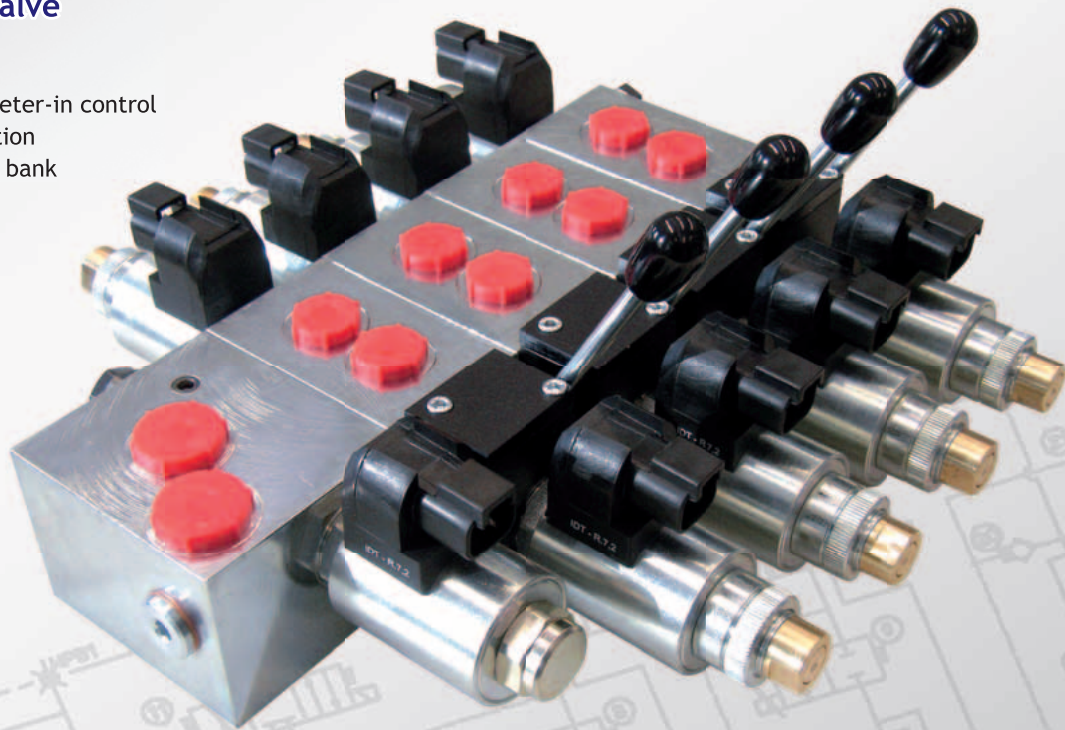
The **TDV-OMD** is a closed center, on-off, sectional valve with proportional compensated meter-in control. Depending on the configuration of the inlet section, the TDV 30 valve system can be used with FIXED DISPLACEMENT pumps or with pressure/flow compensated load sensing VARIABLE DISPLACEMENT pumps. The load pressure, fixed by the meter-in valve, is transmitted to the inlet unloader valve (by-pass pressure compensator) for a fixed displacement pump or to the pressure/flow compensator element of an automatic variable displacement pump. **TDV-30** valve banks come with a relief valve and with a drain orifice to ensure LS pressure drains once all spools are returned to neutral.

Hydraulic Specifications

- | | |
|--|-------------------------------|
| • Max. operating flow: | 50 lt/min |
| • Max. flow per section: | 30 lt/min |
| • Max. work pressure: | 250 bar |
| • Max. back pressure at T port: | 100 bar |
| • Max. static pressure at T port: | 250 bar |
| • Typical internal leakage (per path): | 25 cu cm/min @ 100 bar |
| • Media operating temperature range: | -15°C/+105°C |
| • Max. contamination level: | 19/16 (ISO 4406) |
| • Fluid viscosity range: | 20-480 cSt |
| • Seals: | BUNA-N (Std.)
Viton (Opt.) |

Electrical Specifications

- | | |
|--|---|
| • Nominal coil voltage: | 12/24 VDC |
| • Supply voltage tolerance: | ±15% of nominal |
| • Coil ohmic resistance: | 7/28 Ohm |
| • Meter-in inlet section max. control current: | 1500/750 mA |
| • C/current characteristic: | PWM (Pulse With Modulated) |
| • Optimum dither frequency: | 100-150 Hz |
| • On-off section max. current consumption: | 1700/850 mA |
| • Coil duty cycle: | 100% |
| • Ambient temperature range: | -15°C/+95°C |
| • Env. protection class: | IP 65 |
| • Coil termination: | DT= deutsch DT 04
AJ= AMP Junior Timer
HC= DIN 43650 (Hirschmann) |



Inlet section designation

TDV 31 - IFRLG38 - R25 - 12VDT - NNN

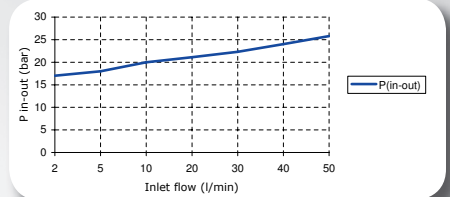
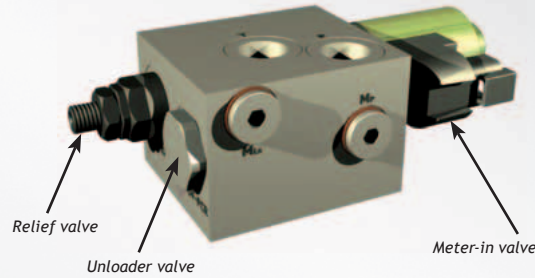
Inlet section

IFR= with meter-in proportional control of pump flow
 IF0= without meter-in proportional control of pump flow
 IV0= for variable displacement pumps
 LG38= 3/8"-BSP

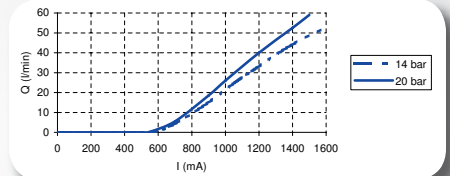
R07= 70 bar min. relief valve setting
 R25= 250 bar max. relief valve setting

12V= 12VDC
 24V= 24VDC
 DT= Deutsch connector

3 digits var.



Inlet to outlet pressure differential (bar) vs. pump flow (l/min)



Meter-in proportional control characteristic (IFR version) at various pressure settings

IFR/IV0 inlet section

Work section designation

TDV 32 - OMDG38 - LM - Y30 - 12VDT - NNN

Inlet section

OMD= on-off control
 G38= 3/8" BSP

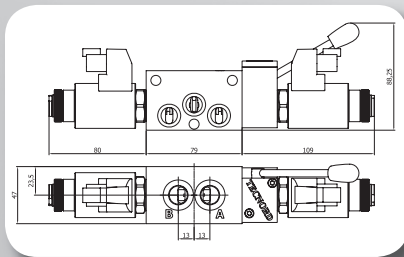
LM= manual lever
 MO= dual manual override

X= closed center spool
 Y= motor spool
 K= semi-motor spool
 S= single effect spool

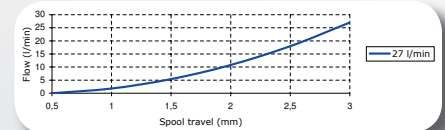
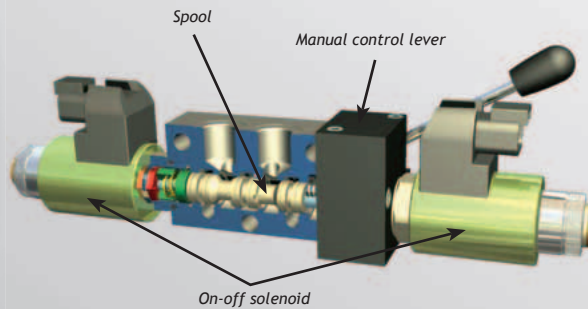
08= 0-8 l/min
 16= 0-16 l/min
 30= 0-30 l/min

12V= 12VDC
 24V= 24VDC
 DT= Deutsch connector

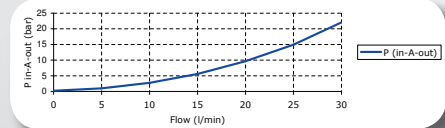
3 digits var.



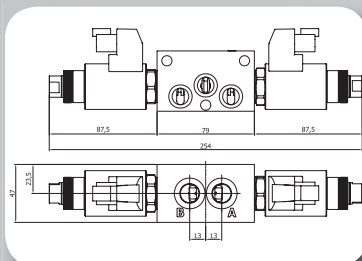
TDV 32 - OMD - LM - Y30 - 12DT



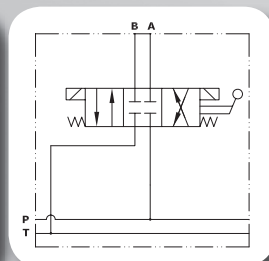
Work port flow (l/min) vs. spool travel (mm)



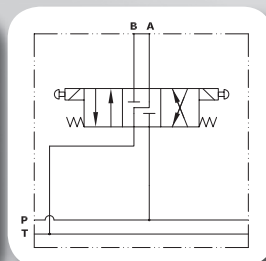
Inlet (P) to outlet (T) pressure drop (bar) @ full flow (l/min) through work ports A&B



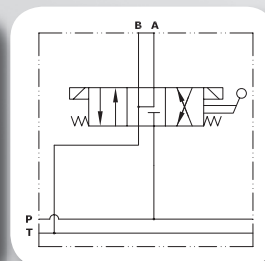
TDV 32 - OMD - MO - Y30 - 12DT



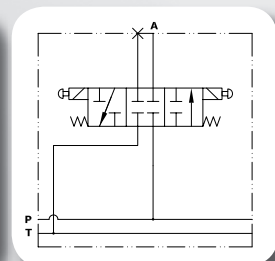
TDV 32-OMD-LM-X30-12DT
 On-off/Closed center spool/30 l/min



TDV 32-OMD-MO-K30-12DT
 On-off/Semi-motor spool/30 l/min



TDV 32-OMD-LM-Y30-12DT
 On-off/Motor spool/30 l/min



TDV 32-OMD-MO-S30-12DT
 On-off/ Single effect spool /30 l/min

TDV 30 - IFR/LG38 - 2OMDLM/2OMDMO - 12VDT - NNN

Valve family

Inlet section

IFR= with meter-in proportional control of pump flow

IF0= without meter-in proportional control of pump flow

IV0= for variable displacement pumps

LG38= 3/8"-BSP

OMDLM= on-off control with manual lever

OMDMO= on-off control with dual manual override

12V= 12VDC

24V= 24VDC

DT= Deutsch connector

3 digits var.



Position	A	C1	C2	C3	C4
Mnemonic code	IFR / IV0 / IF0	OMDLM	OMDLM	OMDMO	OMDMO
Part description	Inlet section	Spool section	Spool section	Spool section	Spool section
Hydraulic configuration	Fixed or variable displacement pump	Manual lever control X/Y/K/S spool on-off actuator	Manual lever control X/Y/K/S spool on-off actuator	Dual manual override X/Y/K/S spool on-off actuator	Dual manual override X/Y/K/S spool on-off actuator
Typical flow rate	50 l/min	8/16/30 l/min	8/16/30 l/min	8/16/30 l/min	8/16/30 l/min
Max. work pressure	280 bar	280 bar	280 bar	280 bar	280 bar
Pressure compensator setting	16 bar	//	//	//	//
Port threads	3/8" BSP	3/8" BSP	3/8" BSP	3/8" BSP	3/8" BSP
	9/16"-18 UNF (SAE6)	9/16"-18 UNF (SAE6)	9/16"-18 UNF (SAE6)	9/16"-18 UNF (SAE6)	9/16"-18 UNF (SAE6)
Number of sections in the assembly	1	1-8	1-8	1-8	1-8
Electrical configuration	Electro-hydraulic	On-off control	On-off control	On-off control	On-off control
Supply voltage	12-24 VDC	12-24 VDC	12-24 VDC	12-24 VDC	12-24 VDC
Max. current consumption	1,5A @ 12VDC 0,75A @ 24VDC	1,7A @ 12VDC 0,85A @ 24VDC	1,7A @ 12VDC 0,85A @ 24VDC	1,7A @ 12VDC 0,85A @ 24VDC	1,7A @ 12VDC 0,85A @ 24VDC
Ohmic resistance	//	7 Ohm (12VDC) 28 Ohm (24VDC)	7 Ohm (12VDC) 28 Ohm (24VDC)	7 Ohm (12VDC) 28 Ohm (24VDC)	7 Ohm (12VDC) 28 Ohm (24VDC)
PWM dither	100-150Hz	//	//	//	//