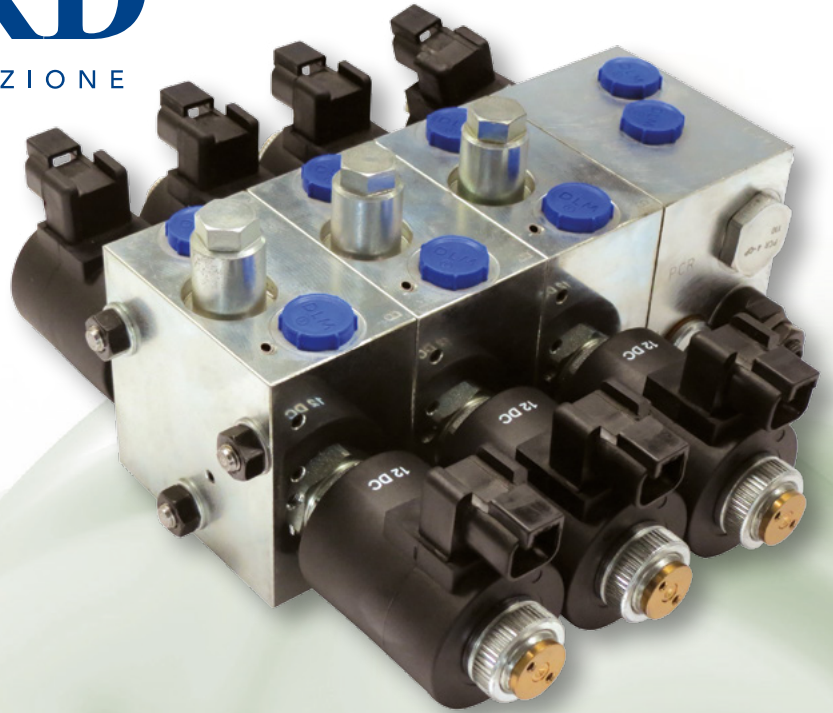


TECNORD

SERVOCOMANDI E REGOLAZIONE

TDV30-PMD

Directional Proportional Control Valve System



STACKABLE DIRECTIONAL CONTROL VALVE

- Load sensing pressure compensated.
- Fixed or variable displacement configuration.
- 1 to 8 working sections in the same valve bank.

ELECTRO-HYDRAULIC CONTROLS

- PMD** Multi-function/direct acting non feedback proportional solenoids.
- OMD** Multi-function/ON-OFF solenoids with optional individual adjustment of flow rate on A&B ports.

MANUAL CONTROL OPTIONS

- MO** Push pin manual override.

PRINCIPLE OF OPERATION

The **TDV30-PMD** is a closed center, load sensing, sectional valve with pressure compensation of each section assembly. Depending on the configuration of the inlet section, the **TDV30-PMD** valve system can be used with **FIXED DISPLACEMENT** pumps or with pressure/flow compensated load sensing **VARIABLE DISPLACEMENT** pumps.

When multiple functions are selected, the **TDV30-PMD** valve system will automatically resolve the highest function load pressure, which is then transmitted to the inlet unloader (by-pass pressure compensator) of a fixed displacement pump or to the pressure/flow compensator element of an automatic variable displacement pump.

TDV30-PMD valve banks come with a system relief valve and with a drain orifice to ensure LS pressure drains once all spools are returned to neutral. Work port pressure limiting is accomplished by using auxiliary anti-shock/anti-cavitation valves at each port.

HYDRAULIC SPECIFICATIONS

- Max. operating flow50 lt/min
- Max. flow per section.....27 lt/min
- Max. work pressure.....250 bar
- Inlet pressure compensator setting..... 16 bar
- Max. back pressure at T port.....20 bar
- Media operating temperature range.....-15°C/+105°C
- Max. contamination level 18/15/10 (ISO 4406)
- Fluid viscosity range.....20-480 cSt
- SealsBuna-N (Std) Viton (Opt.)

ELECTRICAL SPECIFICATIONS

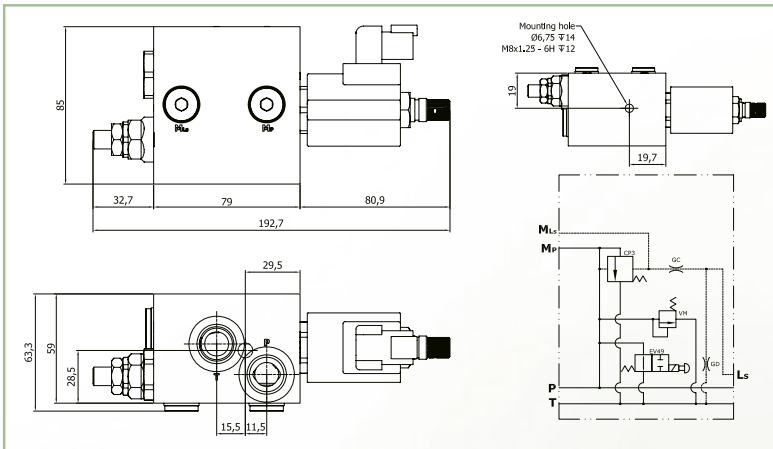
- Nominal coil voltage 12/24 VDC
- Supply voltage tolerance±15% of nominal
- Coil ohmic resistance5/20 Ohm
- Max. control current.....800-1600 mA
- C/current characteristic.....PWM (Pulse width modulation)
- Optimum dither frequency 100-150 Hz
- Coil duty cycle.....100%
- Ambient temperature range-15°C/+90°C
- Env. protection classIP 65
- Coil termination.....DT= deutsch DT 04
AJ= AMP Junior Timer
HC= DIN 43650 (Hirschmann)

INLET & WORK SECTIONS ASSEMBLY OPTIONS

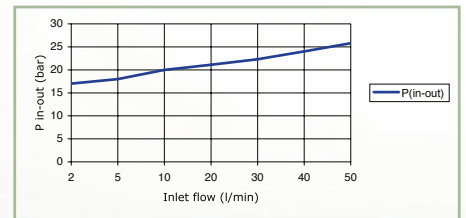
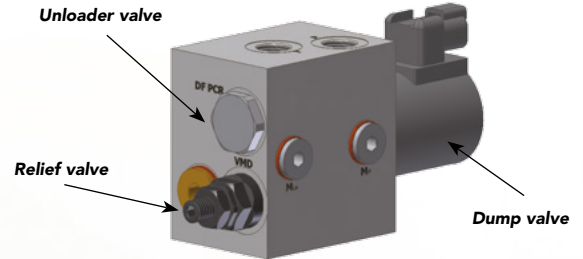
INLET SECTION DESIGNATION

TDV 31 - IFCG38 - C16 - E49 - 12VDT - NNN

- | | | | | |
|--|--|------------------------------|------------------------------------|----------------------|
| Inlet section | | | | 3 digits var. |
| IFC = with pump unloader valve for fixed displacement pumps | C16 = 16 bar | 0000 = w/o dump valve | 12V = 12 VDC | |
| IV0 = without pump unloader valve for variable displacement pumps | C00 = no unloader valve | E49 = with dump valve | 24V = 24 VDC | |
| G38 = 3/8" BSP | R07 = 70 bar min. relief valve setting | | DT = Deutsch DT 04-2P | |
| | R25 = 250 bar max. relief valve setting | | JT = AMP Junior Timer | |
| | | | HC = DIN 43650 (Hirschmann) | |



IFC/IV0 inlet section

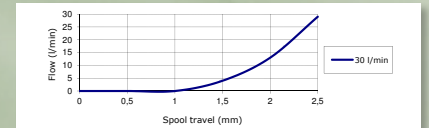
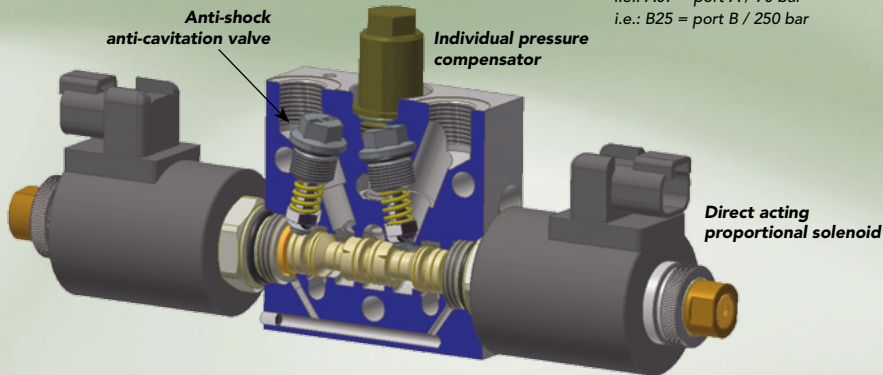


Inlet to outlet stand-by differential pressure (bar) vs. pump flow (l/min)

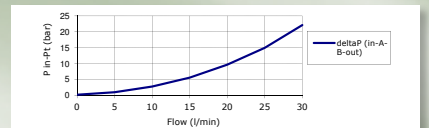
WORK SECTION DESIGNATION

TDV 32 - PMDG38 - MO - A07B12 - Y30 - 12VDT - NNN

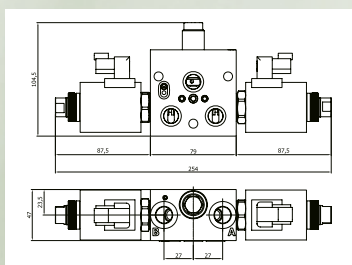
- | | | | | |
|--|----------------------------------|----------------------------------|--------------------------------|------------------------------------|
| Work section | | | | 3 digits var. |
| PMD = pressure compensated proportional control | 00 = no override | A00 = no ASC valve on A | X = closed center spool | 12V = 12 VDC |
| OMD = pressure compensated on-off control | MO = dual manual override | B00 = no ASC valve on B | Y = motor spool | 24V = 24 VDC |
| G38 = 3/8" BSP | | AXX = ASC/A valve setting | K = semi-motor spool | DT = Deutsch DT 04-2P |
| | | BXX = ASC/B valve setting | S = single effect spool | JT = AMP Junior Timer |
| | | i.e.: A07 = port A / 70 bar | 08 = 0-8 l/min | HC = DIN 43650 (Hirschmann) |
| | | i.e.: B25 = port B / 250 bar | 16 = 0-16 l/min | |
| | | | 30 = 0-30 l/min | |



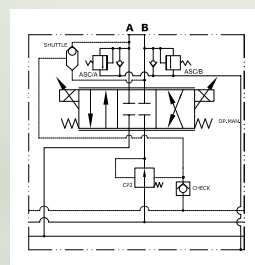
Work port flow (l/min) vs. spool travel (mm)



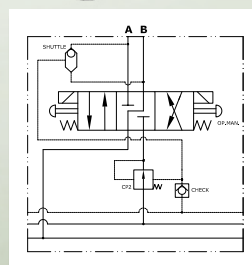
Inlet (P) to outlet (T) overall pressure drop (bar) @ full flow (l/min) through work ports A&B



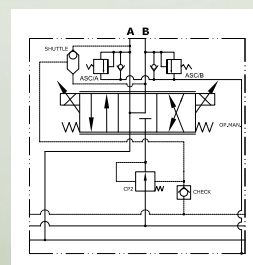
TDV 32-PMD-MO-00-Y27-12DT



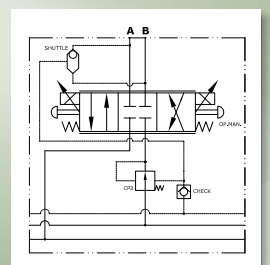
TDV 32-PMD-00-A07B12-X30-12DT
Proportional/Closed center spool/ASC valves



TDV 32-OMD-MO-00-K30-12DT
On-off/Semi-motor spool/No aux. valves



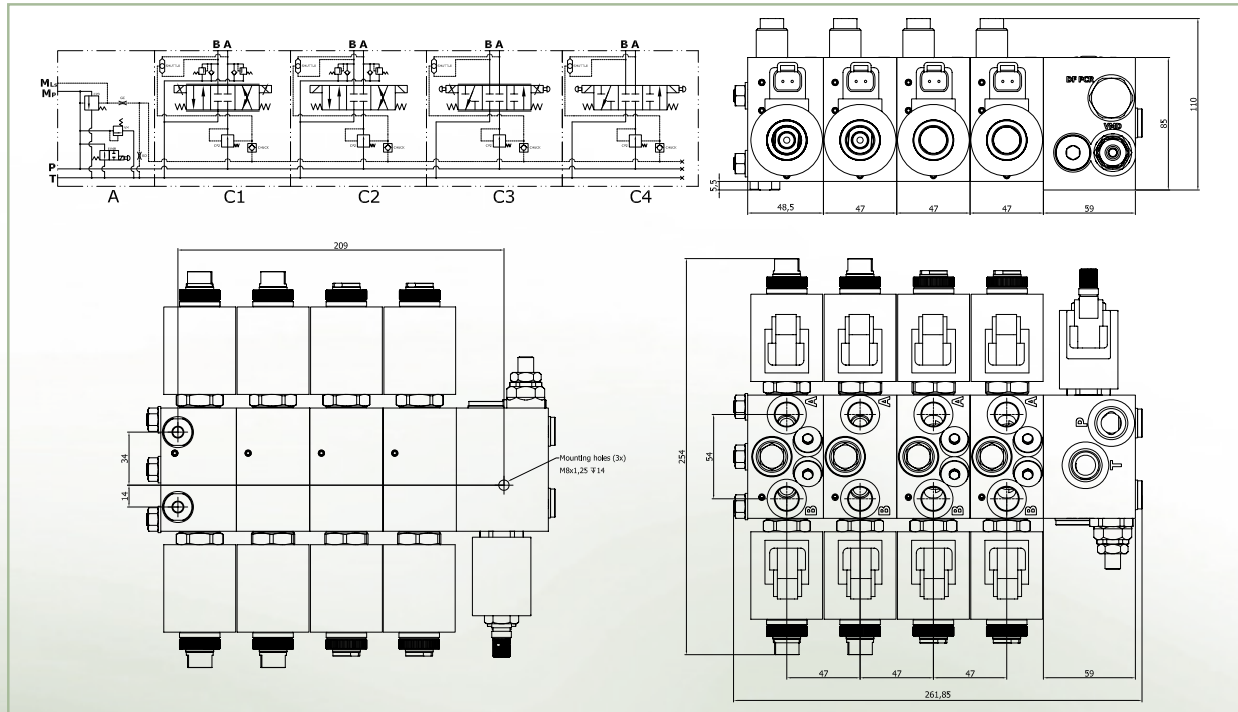
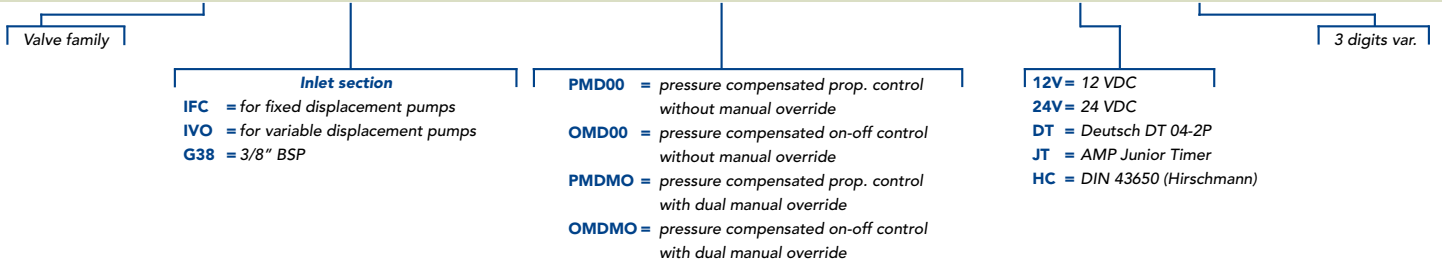
TDV 32-PMD-00-A07B12-Y30-12DT
Proportional/Motor spool/ASC valves



TDV 32-PMD-MO-00-S30-12DT
Proportional/Motor spool/No aux. valves

SPOOL SECTION DESIGNATION

TDV 30 - IFCG38 - 1PMD00/1OMD00/1PMDMO/1OMDMO - 12VDT - NNN



TDV 30 - IFCG38 - 1PMD00/1OMD00/1PMDMO/1OMDMO - 12VDT

Hydraulic and electrical characteristics of operating parts

Position	A	C1	C2	C3	C4
Mnemonic code	IFC / IVO	PMD00	OMD00	PMDMO	OMDMO
Part description	Inlet section	Spool section	Spool section	Spool section	Spool section
Hydraulic configuration	Fixed or variable displacement pump	X/Y/K/S spool proportional actuator	X/Y/K/S spool on-off actuator	Dual manual override X/Y/K/S spool proportional 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	250 bar	250 bar	250 bar	250 bar	250 bar
Pressure compensator setting	16 bar	14 bar	14 bar	14 bar	14 bar
Port threads	1/2" BSP 9/16"-18 UNF (SAE6)	1/2" BSP 9/16"-18 UNF (SAE6)	1/2" BSP 9/16"-18 UNF (SAE6)	1/2" BSP 9/16"-18 UNF (SAE6)	1/2" BSP 9/16"-18 UNF (SAE6)
Number of sections in the assembly	1	1-8	1-8	1-8	1-8
Electrical configuration	Electro-hydraulic	Proportional control	On-off control	Proportional control	On-off control
Supply voltage	12-24 VDC	//	12-24 VDC	//	12-24 VDC
Max. current consumption	2 A @ 12 VDC 1 A @ 24 VDC	//	2.4 A @ 12 VDC 1.2 A @ 24 VDC	//	2.4 A @ 12 VDC 1.2 A @ 24 VDC
Ohmic resistance	//	5 Ohm (12 VDC) 20 Ohm (24 VDC)	5 Ohm (12 VDC) 20 Ohm (24 VDC)	5 Ohm (12 VDC) 20 Ohm (24 VDC)	5 Ohm (12 VDC) 20 Ohm (24 VDC)
Typical control current range	//	0.3 - 1.6 A (12 VDC) 0.15 - 0.8 A (24 VDC)	//	0.3 - 1.6 A (12 VDC) 0.15 - 0.8 A (24 VDC)	//
PWM dither	//	100-150Hz	//	100-150Hz	//

TECNORD COMPREHENSIVE RANGE OF REMOTE CONTROL ELECTRONICS



EC-PWM-A1-MPC1

Microprocessor – based PWM electronic drivers



FINGERTIP PROPORTIONAL LEVERS

Potentiometric and hall effect single-axis control levers and roller switches



ERGONOMIC GRIPS

Multi-function ergonomic grips with on-off and proportional switches



HEAVY DUTY JOYSTICKS

Potentiometric and hall effect multi-axes control joysticks



EC MMS

Microprocessor-based Machine Management Systems for the integrated control of electro-hydraulic and safety functions



ECOMATIC

GPS ground-speed oriented salt spreader control systems



RC – SHW

Combined on-off and proportional radio control system with single hand wander



RC – PTM

Multi-function proportional Radio Control with shoulder-strap transmitter and CANbus receiver



ARM-REST CONTROLLER

Arm-rest control unit for Hedge Cutter



TECNORD

Via Malavolti, 36 - 41122 Modena - Italy - Tel. +39 (059) 254895 - Fax +39 (059) 253512
tecnord@tecnord.com - www.tecnord.com