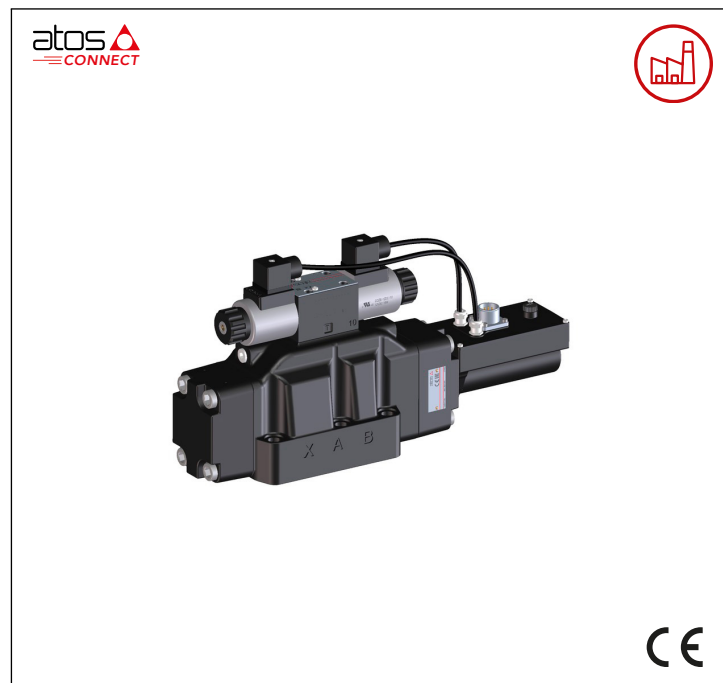


DPZE-TID

High performance directionals

Piloted, positive overlap, on-board driver, LVDT transducer



Sizes
16 ÷ 32
ISO 4401

Qmax
400 ÷ 1600
l/min

Pmax
350
bar

Features

- 4/3, 4/4 positive spool overlap
- Analog or CANopen interfaces
- Bluetooth / USB connectivity
- Atos CONNECT App for smartphones and tablets
- E-SW-SETUP programming software for PC
- Internal oscilloscope function
- Optional damping plate to reduce acceleration stress
- IP66 / IP67 protection degree

Description

Digital high performances proportional directional valves, piloted, with LVDT position transducer (main stage) and positive spool overlap for directional controls and not compensated flow regulations.

TID on-board digital driver performs the valve's hydraulic regulation according to the reference signal, analog for TID-NP or CANopen for TID-BC.

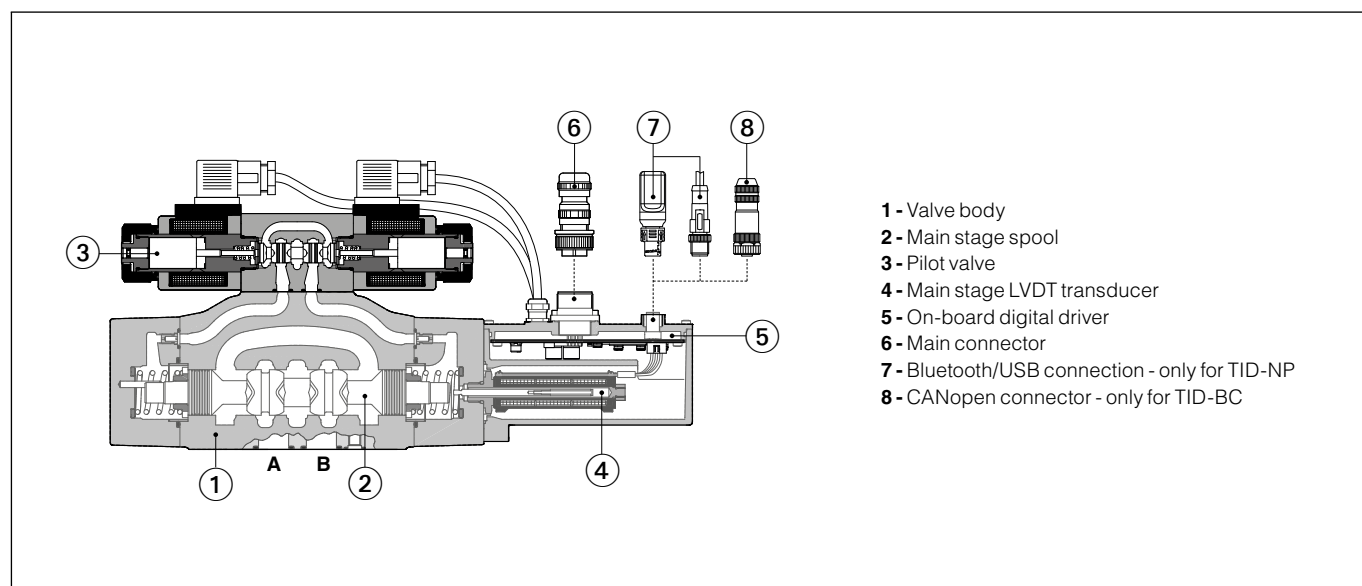
For **TID-NP**, Bluetooth/USB connection is always present for valve settings via mobile App and Atos PC software.

For **TID-BC**, CANopen interface is always present for valve settings via fieldbus and Atos PC software.

The LVDT transducer grants high regulation accuracy and response sensitivity.

With de-energized proportional solenoids, the mechanical central position of the spool is performed by centering springs.

Overview



1 MODEL CODE

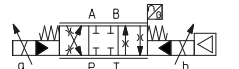
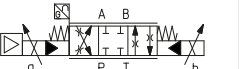
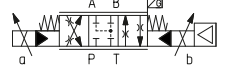
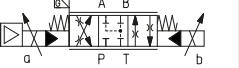
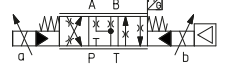
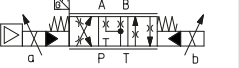
1.1 Model code for valve with spools standard

DPZE	-	TID	-	NP	-	2	-	71	-	L	-	5	/	*	/	*	-	*	/	*
1		2		3		4		5		6		7		8		9		10		11

1 - Valve type	
DPZE	Proportional directional valves, piloted
2 - Digital driver	
TID	on-board digital driver and LVDT transducer
3 - Fieldbus interface	
NP	Not present (USB port available)
BC	CANopen (USB port not available) (1)

(1) Reference and monitor signals only via CANopen (analog signals not available)

4 - Valve size, ISO 4401	
2	size 16
4	size 25
6	size 32

5 - Configuration		
	standard	option /B
71		
72 (2)		
73		

(2) Only for DPZE sizes 2, 4 and 6 with spools L5, S5 or D5 see 8.4

6 - Spool type, regulating characteristics	
L	 Linear
S	 Progressive
DL	 Differential-linear P-A = Q, B-T = Q/2 P-B = Q/2, A-T = Q
D	 Differential-progressive P-A = Q, B-T = Q/2 P-B = Q/2, A-T = Q

See section 8

7 - Spool size						
	Valve model	Configuration	Spool type			
			L	S	D	DL
3	DPZO-2	71,73	160	160	160	-
	DPZO-2	71,73	250	250	250	250
	DPZO-2	72	250	250	250	-
	DPZO-4	71,73	480	480	480	480
	DPZO-4	72	480	480	480	-
	DPZO-6	71,73	640	640	640	-
5	DPZO-6	72	640	640	640	-

Nominal flow (l/min) at Δp 10 bar P-T, see section 5

8 - Construction options (3)	
B	on-board digital driver, connectors and LVDT position transducer at side of port A of the main stage (side B of pilot valve)
D	internal drain
E	external pilot pressure
G	pressure reducing valve for piloting

See section 9

(3) Pilot and Drain configuration: standard configuration is internal pilot and external drain, other configurations on request

9 - Electronic options - only for TID-NP	
I	current reference input and monitor 4÷20mA
J	current reference input 4÷20mA and voltage monitor ±10VDC
Q	enable signal
T	Bluetooth adapter supplied with the valve

See section 10

10 - Series identification - not required for ordering	
.....	series number

11 - Seals material	
-	NBR
PE	FKM

See section 7

1.2 Model code for valve with spools specific for regenerative circuit

DPZE	-	TID	-	NP	-	2		71	-	RE		5	/	*	/	*		*	/	*
1		2		3		4		5		6		7		8		9		10		11

1 - Valve type	
DPZE	Proportional directional valves, piloted
2 - Digital driver	
TID	on-board digital driver and LVDT transducer
3 - Fieldbus interface	
NP	Not present (USB port available)
BC	CANopen (USB port not available) (1)

(1) Reference and monitor signals only via CANopen (analog signals not available)

4 - Valve size, ISO 4401	
2	size 16
4	size 25

5 - Configuration			
	spool type	standard	option /B
71	RE		
	R		
73	RE		
	R		

6 - Spool type, regulating characteristics	
RE	For regenerative circuit (additional external check valve required) See 8.1- diagram 15
R	For regenerative circuit internal to the valve See 8.1- diagram 16

7 - Spool size				
	Valve model	Configuration	Spool type	
			RE	R
5	DPZO-2	71,73	250	250
	DPZO-4	71,73	480	-

Nominal flow (l/min) at Δp 10 bar P-T, see section 5

8 - Construction options (3)	
B	on-board digital driver, connectors and LVDT position transducer at side of port A of the main stage (side B of pilot valve)
D	internal drain
E	external pilot pressure
G	pressure reducing valve for piloting

See section 9

(3) Pilot and Drain configuration: standard configuration is internal pilot and external drain, other configurations on request

9 - Electronic options - only for TID-NP	
I	current reference input and monitor $4 \div 20$ mA
J	current reference input $4 \div 20$ mA and voltage monitor ± 10 VDC
Q	enable signal
T	Bluetooth adapter supplied with the valve

See section 10

10 - Series identification - not required for ordering	
.....	series number

11 - Seals material	
-	NBR
PE	FKM

See section 7

2 PROGRAMMING TOOLS - see tech table GS500

2.1 TID-NP

Atos CONNECT mobile App

Free downloadable App for smartphones and tablets which allows quick access to valve main functional parameters and basic diagnostic information via Bluetooth, thus avoiding physical cable connection and significantly reducing commissioning time. Atos CONNECT supports Atos digital valve drivers equipped with E-A-BTH adapter or with built-in Bluetooth. It does not support valves with p/Q control or axis controls.



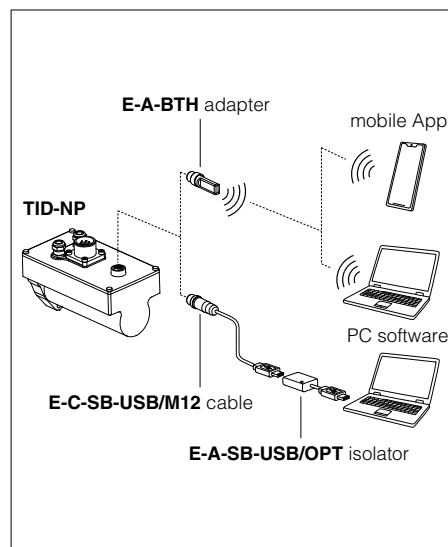
E-SW-SETUP PC software

Free downloadable software for PC allows to set all valve functional parameters and to access complete diagnostic information of digital valve drivers via Bluetooth/USB service port. Atos E-SW-SETUP PC software supports all Atos digital valve drivers and it is available in MyAtos area at www.atos.com



WARNING: drivers USB port is not isolated! For E-C-SB-USB/M12 cable, the use of E-A-SB-USB/OPT isolator is highly recommended for PC protection

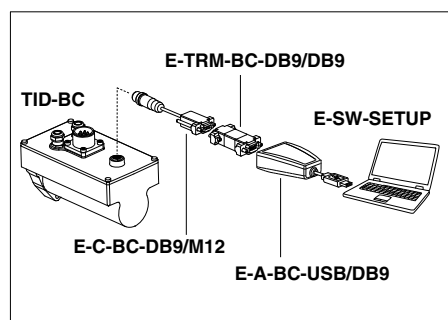
Bluetooth or USB connection



2.2 TID-BC

E-SW-SETUP PC software

Free downloadable software for PC allows to set all valve functional parameters and to access complete diagnostic information of digital valve drivers via Bluetooth/USB service port. Atos E-SW-SETUP PC software supports all Atos digital valve drivers and it is available in MyAtos area at www.atos.com



3 BLUETOOTH OPTION - only for TID-NP - see tech. table GS500

T option adds Bluetooth® connectivity to Atos valve drivers thanks to E-A-BTH adapter, which can be left permanently installed on-board, to allow the Bluetooth connection with the valve drivers at any time. E-A-BTH adapter can also be purchased separately and used to connect with any supported Atos digital product.

Bluetooth connection to the valve can be protected against unauthorised access by setting a personal password. The adapter leds visually indicates the status of valve driver and Bluetooth connection.



WARNING: for the list of countries where the Bluetooth adapter has been approved, see tech. table GS500

T option is not available for the Indian market, so the Bluetooth adapter must be ordered separately.

4 GENERAL CHARACTERISTICS

Assembly position	Any position
Subplate surface finishing to ISO 4401	Acceptable roughness index: $Ra \leq 0,8$, recommended $Ra 0,4$ – Flatness ratio 0,01/100
Ambient temperature range	Standard = $-20^{\circ}\text{C} \div +60^{\circ}\text{C}$ / PE option = $-20^{\circ}\text{C} \div +60^{\circ}\text{C}$
Storage temperature range	Standard = $-20^{\circ}\text{C} \div +70^{\circ}\text{C}$ / PE option = $-20^{\circ}\text{C} \div +70^{\circ}\text{C}$
Corrosion resistance	Salt spray test (EN ISO 9227) > 200 h
Vibration resistance	See technical table G004
Compliance	CE according to EMC directive 2014/30/EU (Immunity: EN 61000-6-2; Emission: EN 61000-6-3) Comply with Directive 2011/65/EU as amended (RoHS 2), including Delegated Directive (EU) 2015/863 and all subsequent delegated directives in force on the date of this statement REACH Regulation (EC) n° 1907/2006
MTTFd values according to EN ISO 13849	75 years, for further details see technical table P007
Surface protection	Zinc coating with black passivation

Atos digital proportionals valves are CE marked according to the applicable directives (e.g. Immunity and Emission EMC Directive).
Installation, wirings and start-up procedures must be performed according to the general prescriptions shown in tech table **FS900** and in the user manuals included in the E-SW-SETUP programming software.

5 HYDRAULIC CHARACTERISTICS - based on mineral oil ISO VG 46 at 50 °C

Valve model		DPZE-*-2	DPZE-*-4	DPZE-*-6
Pressure limits [bar]		ports P, A, B, X = 350; T = 250 (10 for option /D); Y = 10		
Spool type and size (1)	Standard	L3, S3, D3	L5, DL5, S5, D5	L5, S5, D5
	Regenerative	-	RE5, R5	RE5
Nominal flow Δp P-T [l/min] (2)	$\Delta p = 10$ bar	160	250	480
	$\Delta p = 30$ bar	270	430	830
	Max permissible flow	400	550	1000
Piloting pressure [bar]		min. = 25; max = 350		
Piloting volume [cm3]		3,7	9,0	21,6
Piloting flow [l/min] (3)		3,7	6,8	10,0
Leakage (4)	Pilot [cm3]	100 / 300	200 / 500	900 / 2800
	Main stage [l/min]	0,2 / 0,6	0,3 / 1,0	1,0 / 3,0
Response time [ms] (5)		≤ 60 (75)	≤ 80 (90)	≤ 130 (130)
Hysteresis		≤ 1 [% of max pressure]		
Repeatability		$\pm 0,5$ [% of max regulation]		
Thermal drift		zero point displacement < 1% at $\Delta T = 40^{\circ}\text{C}$		

(1) For spool type **D, DL** and **RE** the flow value is referred to single path P-A (A-T) at $\Delta p/2$ per control edge. The flow P-B (B-T) is 50% of P-A (A-T)

(2) For different Δp , the max flow is in accordance to the diagrams in section 8.2

(3) With step reference input signal 0 ÷ 100 %

(4) At $p = 100/350$ bar

(5) 0-100% step signal see detailed diagrams in section 8.3, values in brackets are referred to response time for valves with option /G.

6 ELECTRICAL CHARACTERISTICS

Power supplies	Nominal : +24 VDC Rectified and filtered : VRMS = 20 ÷ 32 VMAX (ripple max 10 % VPP)	
Max power consumption	50 W	
Max. solenoid current	2,6 A	
Coil resistance R at 20°C	3,1 Ω	
Analog input signals (1)	Voltage: range ±10 VDC (24 VMAX tolerant) Input impedance: Ri > 50 kΩ Current: range ±20 mA Input impedance: Ri = 500 Ω	
Monitor output (1)	Output range: voltage ±10 VDC @ max 5 mA current ±20 mA @ max 500 Ω load resistance	
Enable input (1)	Range: 0 ÷ 5 VDC (OFF state), 9 ÷ 24 VDC (ON state), 5 ÷ 9 VDC (not accepted); Input impedance: Ri > 10 kΩ	
Alarms	Solenoid not connected/short circuit, cable break with current reference signal (1) , over/under temperature, valve spool transducer malfunctions, alarms history storage function	
Insulation class	H (180°) Due to the occurring surface temperatures of the solenoid coils, the European standards ISO 13732-1 and EN982 must be taken into account	
Protection degree to DIN EN60529	IP66/ IP67 with mating connectors	
Duty factor	Continuous rating (ED=100%)	
Additional characteristics	Short circuit protection of solenoid's current supply; current control by P.I.D. with rapid solenoid switching; protection against reverse polarity of power supply	
Recommended wiring cable	LIYCY shielded cables, see section 13	
Communication interface	USB Atos ASCII coding	CANopen EN50325-4 + DS408
Communication physical layer	not insulated USB 2.0 + USB OTG	optical insulated CAN ISO11898

(1) Available only for TID-NP

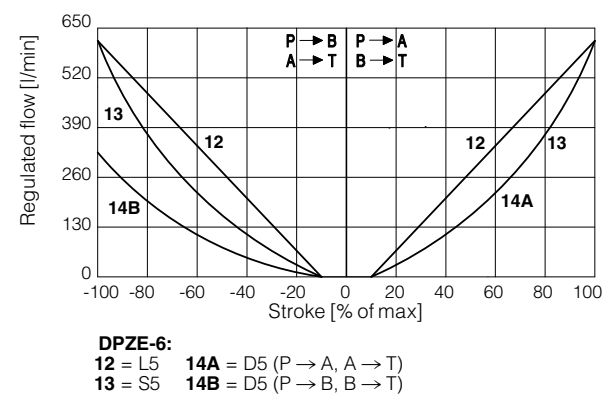
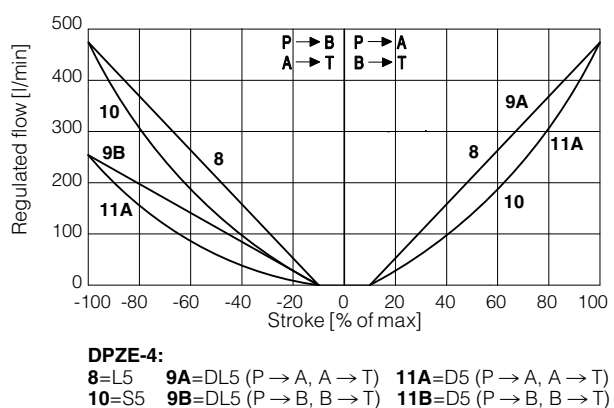
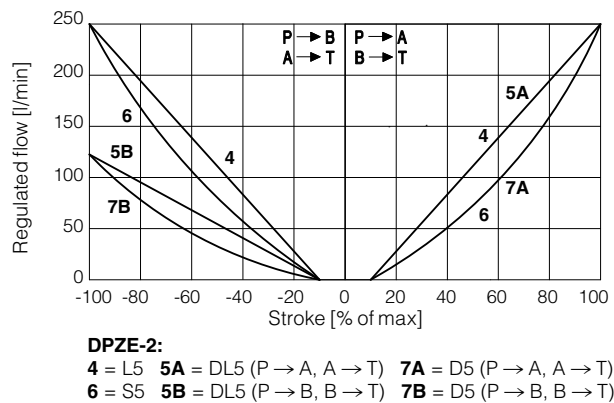
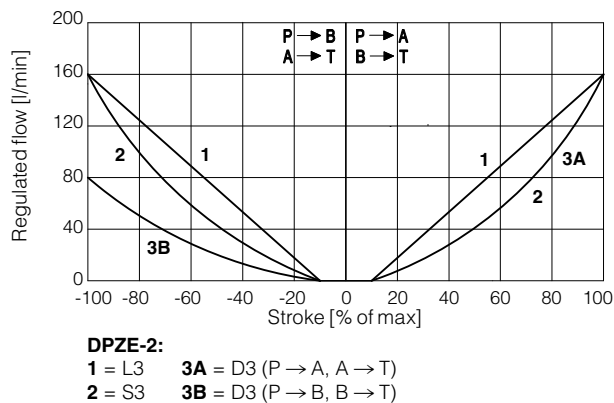
Note: a maximum time of 500 ms (depending on communication type) has to be considered between the driver energizing with the 24 VDC power supply and when the valve is ready to operate. During this time the current to the valve coils is switched to zero

7 SEALS AND HYDRAULIC FLUIDS - for other fluids not included in below table, consult our technical office

Seals, recommended fluid temperature		NBR seals (standard) = -20°C ÷ +60°C, with HFC hydraulic fluids = -20°C ÷ +50°C FKM seals (/PE option) = -20°C ÷ +80°C	
Recommended viscosity		20÷100 mm²/s - max allowed range 15 ÷ 380 mm²/s	
Max fluid contamination level	normal operation	ISO4406 class 18/16/13 NAS1638 class 7	see also filter section at www.atos.com or KTF catalog
	longer life	ISO4406 class 16/14/11 NAS1638 class 5	
Hydraulic fluid	Suitable seals type	Classification	Ref. Standard
Mineral oils	NBR, FKM	HL, HLP, HLPD, HVLP, HVLPD	DIN 51524
Flame resistant without water	FKM	HFDU, HFDR	ISO 12922
Flame resistant with water	NBR	HFC	

8 CHARACTERISTIC CURVES - based on mineral oil ISO VG 46 at 50°C

8.1 Regulation diagrams - values measure at Δp 10 bar P-T



Note:

Hydraulic configuration vs. reference signal (standard and option /B)

TID-NP

Reference signal

$0 \div +10 \text{ V}$
 $12 \div 20 \text{ mA}$

$0 \div -10 \text{ V}$
 $12 \div 4 \text{ mA}$

$\left. \begin{array}{l} 0 \div +10 \text{ V} \\ 12 \div 20 \text{ mA} \end{array} \right\} \text{P} \rightarrow \text{A} / \text{B} \rightarrow \text{T}$
 $\left. \begin{array}{l} 0 \div -10 \text{ V} \\ 12 \div 4 \text{ mA} \end{array} \right\} \text{P} \rightarrow \text{B} / \text{A} \rightarrow \text{T}$

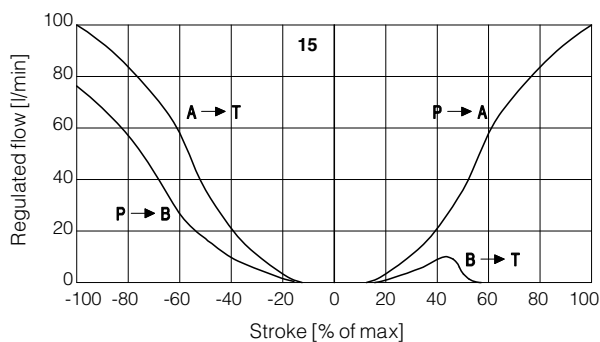
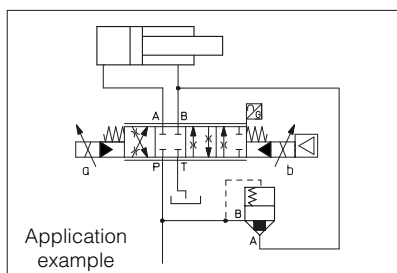
TID-BC

Positive reference signal P → A / B → T

Negative reference signal P → B / A → T

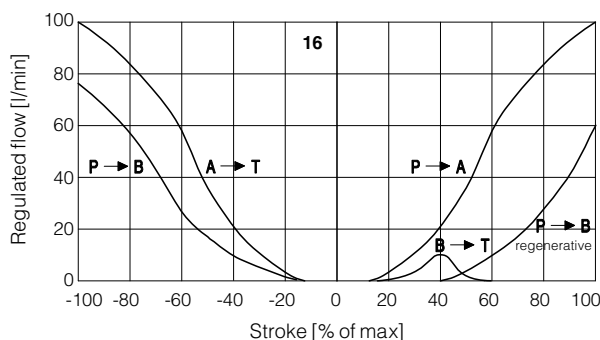
15 = differential - regenerative spool **RE5**
(not available for valve size 32)

RE5 spool type with a fourth position specific to regenerative circuit, performed by means of an additional external check valve.



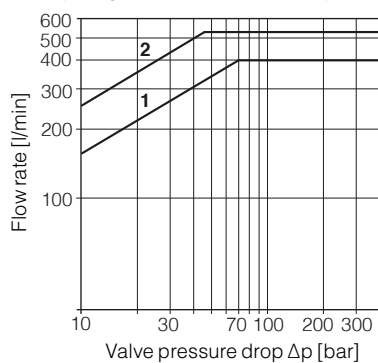
16 = linear - internal regenerative spool **R5**
(available only for valve size 16)

R5 spool type with a fourth position specific to perform a regenerative circuit internal to the valve.



8.2 Operating diagrams

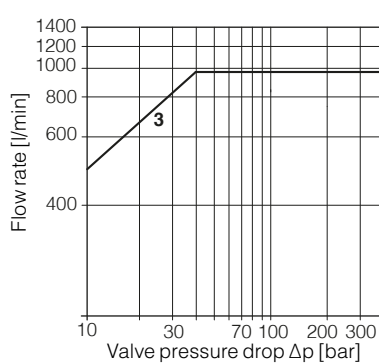
Flow / Δp diagram stated at 100% of spool stroke



DPZE-2:

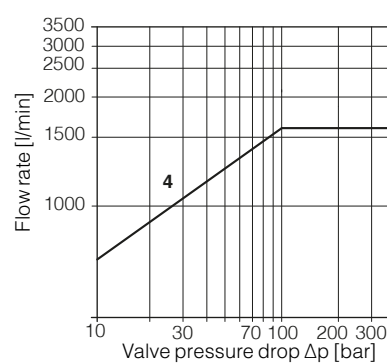
1 = spools L3, S3, D3

2 = spools L5, S5, D5, DL5, RE5, R5



DPZE-4:

3 = spools L5, S5, D5, DL5, RE5

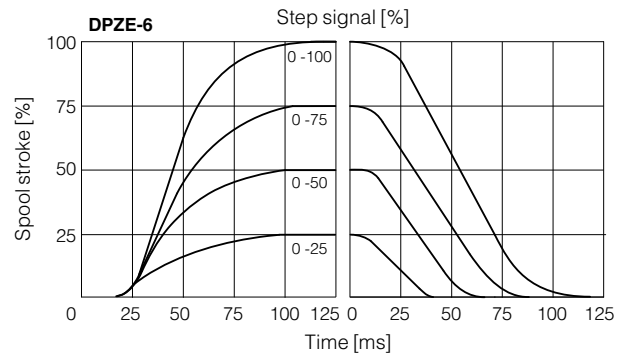
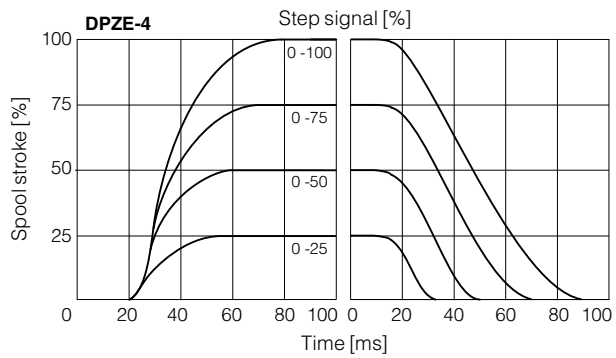
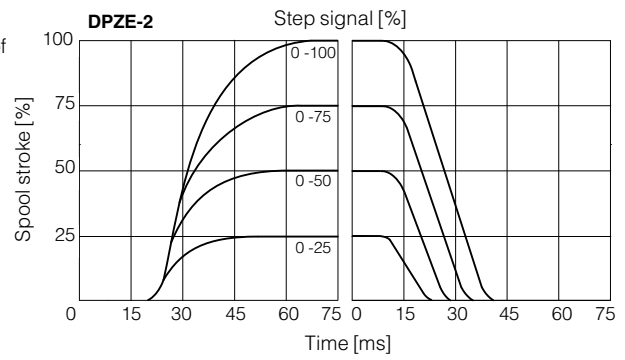


DPZE-6:

4 = L5, S5, D5

8.3 Response time

The response times in below diagrams are measured at different steps of the reference input signal. They have to be considered as average values.



8.4 Configuration 72

Only for **DPZE** sizes **2, 4** and **6** with spools **L5, S5** or **D5**: in central position the leakages P-A and P-B are drained to tank, avoiding the drift of cylinders with differential areas.

9 CONSTRUCTION OPTIONS

B = Configurations 71, 73: on-board digital driver connectors and LVDT transducer at side of port A of the main stage (side B of pilot valve).

For hydraulic configuration vs reference signal, see 8.1

D = Internal drain.

Pilot and drain configuration can be modified as shown in section 14

The valve's standard configuration provides internal pilot and external drain.

E = External pilot (through port X).

Pilot and drain configuration can be modified as shown in section 14

The valve's standard configuration provides internal pilot and external drain.

G = Pressure reducing valve installed between pilot valve and main body with fixed setting: DPZE-2, DPZE-4 and DPZE-6 = **40 bar**

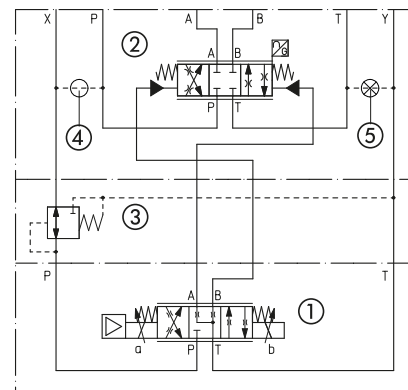
1 - Pilot valve

2 - Main stage

3 - Pressure reducing valve

4 - Plug to be added for external pilot through port X

5 - Plug to be removed for internal drain through port T



10 ELECTRONIC OPTIONS - only for TID-NP

I = This option provides 4 - 20 mA current reference and monitor signals, instead of the standard ± 10 VDC.

It is normally used in case of long distance between the machine control unit and the valve or where the reference signal can be affected by electrical noise; the valve functioning is disabled in case of reference signal cable breakage.

J = This option provides 4 - 20 mA current reference and ± 10 VDC voltage monitor signals.

The valve functioning is disabled in case of reference signal cable breakage.

Q = This option permits to inhibit the valve function without removing the power supply to the driver. Upon disable command the current to the solenoid is zeroed and the valve's spool moves to rest position.

The option /Q is suggested for all cases where the valve has to be frequently inhibited during the machine cycle – see section 11.4, for signal specifications.

T = Bluetooth adapter supplied with the valve.

11 POWER SUPPLY AND SIGNALS SPECIFICATIONS

11.1 Power supply (V+ and V0)

The power supply must be appropriately stabilized or rectified and filtered: apply at least a 10000 μ F/40 V capacitance to single phase rectifiers or a 4700 μ F/40 V capacitance to three phase rectifiers.



A safety fuse is required in series to the power supply: 2,5 A time lag fuse.

11.2 Flow reference input signal (Q_INPUT+) - only for TID-NP

The driver controls in closed loop the valve spool position proportionally to the external reference input signal.

Standard (voltage reference input): default is ± 10 VDC and can be reconfigured via software, within a maximum range of ± 10 VDC.

Options /I and /J (current reference input): default is 4 $\div$ 20 mA and can be reconfigured via software, within a maximum range of ± 20 mA.

11.3 Flow monitor output signal (Q_MONITOR) - only for TID-NP

The driver generates an analog output signal proportional to the actual spool position of the valve; the monitor output signal can be software set to show other signals available in the driver.

Standard and option /J (voltage monitor output): default is ± 10 VDC and can be reconfigured via software, within a maximum range of ± 10 VDC.

Option /I (current monitor output): default is 4 $\div$ 20 mA and can be reconfigured via software, within a maximum range of ± 20 mA.

Note:

monitor output signal must not be directly used to activate safety functions, like to switch-ON/OFF the machine's safety components, as prescribed by the European standards (Safety requirements of fluid technology systems and components-hydraulics, ISO 4413).

11.4 Enable input signal (ENABLE) - for TID-NP with /Q option

To enable the driver, supply a 24 VDC on pin 3 (pin C): Enable input signal allows to enable/disable the current supply to the solenoid, without removing the electrical power supply to the driver; it is used to active the communication and the other driver functions when the valve must be disabled for safety reasons. This condition **does not comply** with norms IEC 61508 and ISO 13849.

12 ELECTRONIC CONNECTIONS

12.1 Main connector signals - 7 pin - for TID-NP

PIN	SIGNAL	TECHNICAL SPECIFICATIONS	NOTES
A	V+	Power supply 24 VDC	Input - power supply
B	V0	Power supply 0 VDC	Gnd - power supply
C	AGND	Analog ground	Gnd - analog signal
D	Q_INPUT+	Flow reference input signal: ±10 VDC for standard, 4 ÷ 20 mA for /I and /J options	Input - analog signal
E	INPUT-	Negative reference input signal for Q_INPUT+	Input - analog signal
F	Q_MONITOR	Flow monitor output signal: ±10 VDC for standard and /J option, 4 ÷ 20 mA for /I option, referred to AGND	Output - analog signal
G	EARTH	Internally connected to driver housing	-

12.2 Main connector signals - 7 pin - for TID-NP with /Q option

PIN	SIGNAL	TECHNICAL SPECIFICATIONS	NOTES
A	V+	Power supply 24 VDC	Input - power supply
B	V0	Power supply 0 VDC	Gnd - power supply
C	ENABLE	Enable (24 VDC) or disable (0 VDC) the valve, referred to V0	Input - on/off signal
D	Q_INPUT+	Flow reference input signal: ±10 VDC for standard, 4 ÷ 20 mA for /I and /J options	Input - analog signal
E	INPUT-	Negative reference input signal for Q_INPUT+	Input - analog signal
F	Q_MONITOR	Flow monitor output signal: ±10 VDC for standard and /J option, 4 ÷ 20 mA for /I option, referred to V0	Output - analog signal
G	EARTH	Internally connected to driver housing	-

12.3 Main connector signals - 7 pin - for TID-BC

PIN	SIGNAL	TECHNICAL SPECIFICATIONS	NOTES
A	V+	Power supply 24 VDC	Input - power supply
B	V0	Power supply 0 VDC	Gnd - power supply
C	NC	Not connect	-
D	NC	Not connect	-
E	NC	Not connect	-
F	NC	Not connect	-
G	EARTH	Internally connected to driver housing	-

12.4 USB connector - M12 - 5 pin - only for TID-NP

PIN	SIGNAL	TECHNICAL SPECIFICATIONS(1)
1	+5V_USB	Power supply
2	ID	Identification
3	GND_USB	Signal zero data line
4	D-	Data line -
5	D+	Data line +

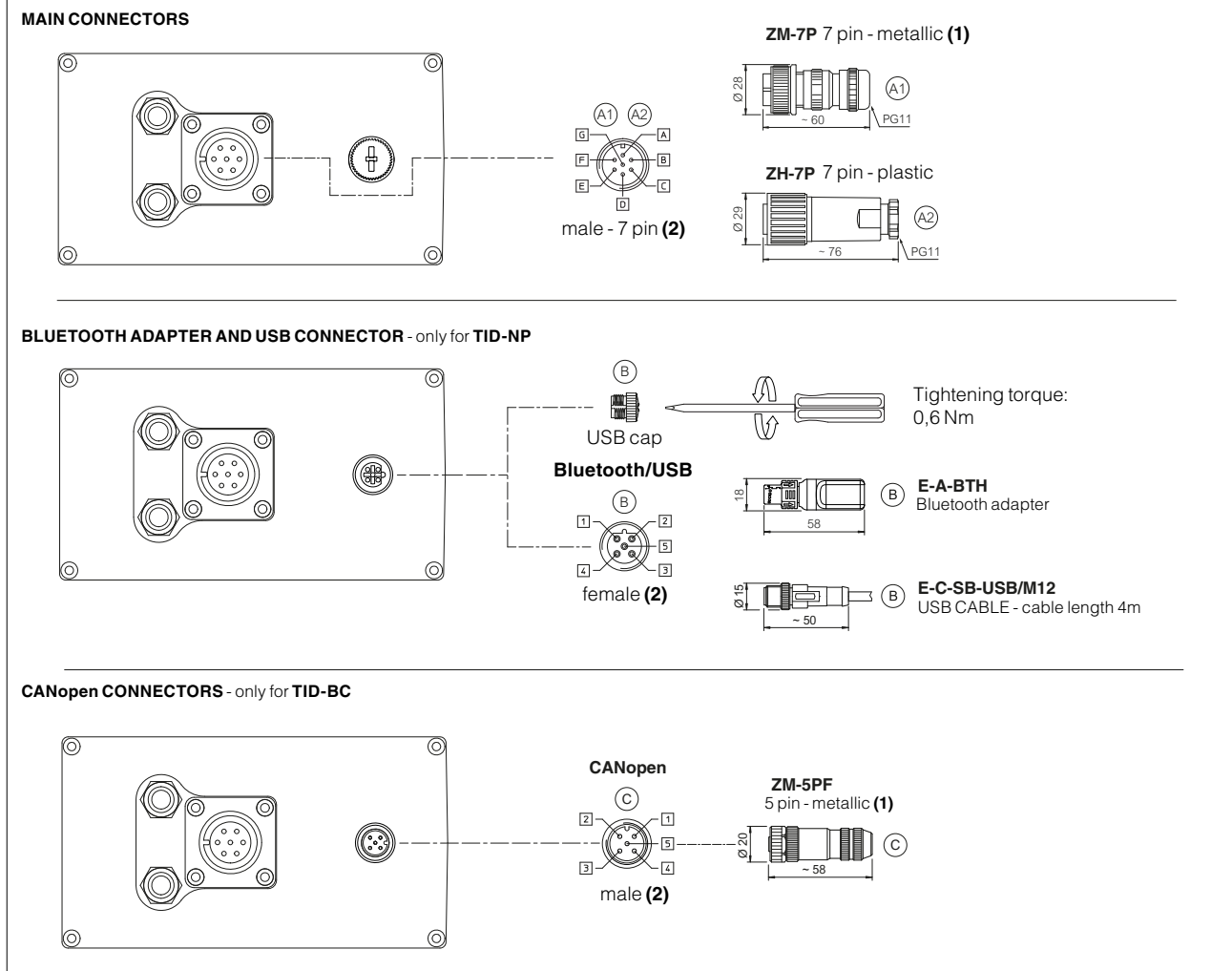
(1) Shield connection on connector housing is recommended

12.5 CANopen connector - M12 - 5 pin - only for TID-BC

PIN	SIGNAL	TECHNICAL SPECIFICATIONS(1)
1	CAN_SHLD	Shield
2	not used	-
3	CAN_GND	Signal zero data line
4	CAN_H	Bus line (high)
5	CAN_L	Bus line (low)

(1) Shield connection on connector housing is recommended

12.6 Connections layout



(1) Use of metallic connectors is strongly recommended in order to fulfill EMC requirements

(2) Pin layout always referred to driver's view

13 CONNECTOR CHARACTERISTICS - to be ordered separately

13.1 Main connectors - 7 pin

CONNECTOR TYPE	POWER SUPPLY AND SIGNALS	POWER SUPPLY AND SIGNALS
CODE	A1 ZM-7P	A3 ZH-7P
Type	7pin female straight circular	7pin female straight circular
Standard	According to MIL-C-5015	According to MIL-C-5015
Material	Metallic	Plastic reinforced with fiber glass
Cable gland	PG11	PG11
Recommended cable	LiYCY 7 x 0,75 mm ² max 20 m (logic and power supply) or LiYCY 7 x 1 mm ² max 40 m (logic and power supply)	LiYCY 7 x 0,75 mm ² max 20 m (logic and power supply) or LiYCY 7 x 1 mm ² max 40 m (logic and power supply)
Conductor size	up to 1 mm ² - available for 7 wires	up to 1 mm ² - available for 7 wires
Connection type	to solder	to solder
Protection (EN 60529)	IP 67	IP 67

13.2 Fieldbus communication connector - only for TID-BC

CONNECTOR TYPE	CANopen
CODE	C ZM-5PF
Type	5 pin female straight circular
Standard	M12 coding A – IEC 61076-2-101
Material	Metallic
Cable gland	Pressure nut - cable diameter 6÷8 mm
Recommended cable	CANbus Standard (DR 303-1)
Connection type	screw terminal
Protection (EN 60529)	IP67

14 PLUGS LOCATION FOR PILOT/DRAIN CHANNELS

Depending on the position of internal plugs, different pilot/drain configurations can be obtained as shown below.
To modify the pilot/drain configuration, proper plugs must only be interchanged. The plugs have to be sealed using loctite 270.
Standard valves configuration provides internal pilot and external drain

DPZE-2	Pilot channels	Drain channels	Internal piloting: without blinded plug (1) SP-X300F External piloting: add blinded plug (1) SP-X300F Internal drain: without blinded plug (2) SP-X300F External drain: add blinded plug (2) SP-X300F
DPZE-4	Pilot channels	Drain channels	Internal piloting: Without blinded plug (1) SP-X500F External piloting: Add blinded plug (1) SP-X500F Internal drain: without blinded plug (2) SP-X300F External drain: add blinded plug (2) SP-X300F
DPZE-6	Pilot channels	Drain channels	Internal piloting: without plug (1) External piloting: add DIN-908 M16x1,5 (1) in pos Internal drain: without blinded plug (2) SP-X300F External drain: add blinded plug (2) SP-X300F

15 FASTENING BOLTS AND SEALS

Type	Size	Fastening bolts	Seals
DPZE	2 = 16	4 socket head screws M10x50 class 12.9 Tightening torque = 70 Nm 2 socket head screws M6x45 class 12.9 Tightening torque = 15 Nm	4 OR 130; Diameter of ports A, B, P, T: Ø 20 mm (max) 2 OR 2043 Diameter of ports X, Y: Ø = 7 mm (max)
	4 = 25	6 socket head screws M12x60 class 12.9 Tightening torque = 125 Nm	4 OR 4112; Diameter of ports A, B, P, T: Ø 24 mm (max) 2 OR 3056 Diameter of ports X, Y: Ø = 7 mm (max)
	6 = 32	6 socket head screws M20x80 class 12.9 Tightening torque = 600 Nm	4 OR 144; Diameter of ports A, B, P, T: Ø 34 mm (max) 2 OR 3056 Diameter of ports X, Y: Ø = 7 mm (max)

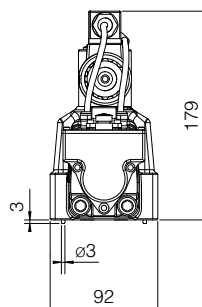
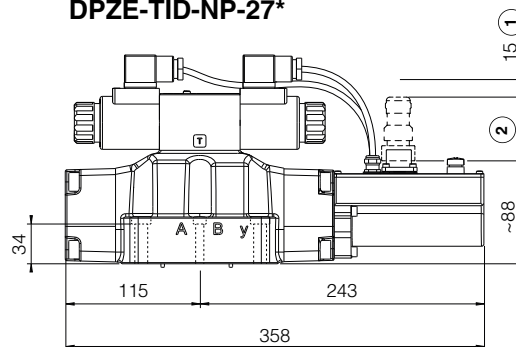
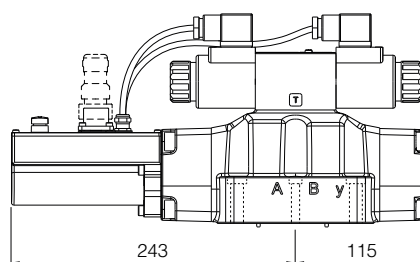
DPZE-TID-*-2

ISO 4401: 2005

Mounting surface: 4401-07-07-0-05

(see table P005)

DPZE-*-2	Mass (kg)
all versions	14,8
option /G	+0,9

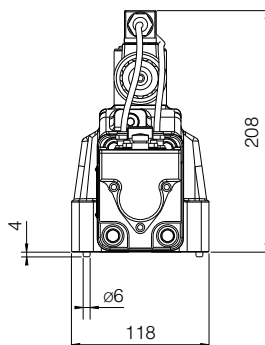
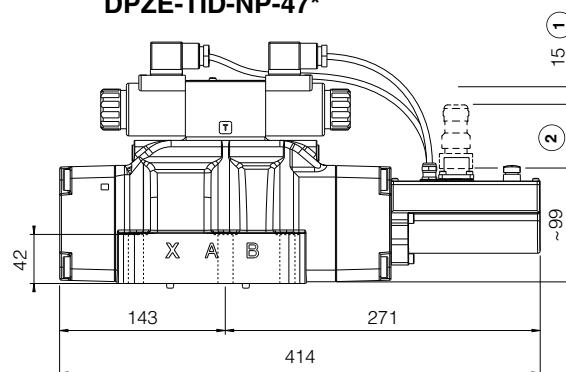
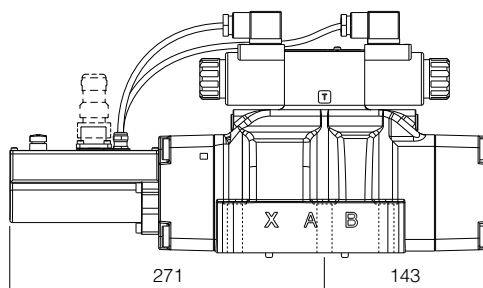
**DPZE-TID-NP-27*****DPZE-TID-NP-27*/B****DPZE-TID-*-4**

ISO 4401: 2005

Mounting surface: 4401-08-08-0-05

(see table P005)

DPZE-*-4	Mass (kg)
all versions	19,3
option /G	+0,9

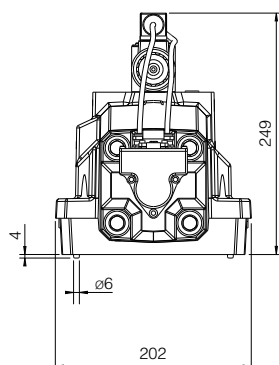
**DPZE-TID-NP-47*****DPZE-TID-NP-47*/B**

- ① Space required for connection cable and for connector removal
- ② The indicated dimension refers to the longer connectors or Bluetooth adapter
For dimensions of connectors and Bluetooth adapter, see section 12.6

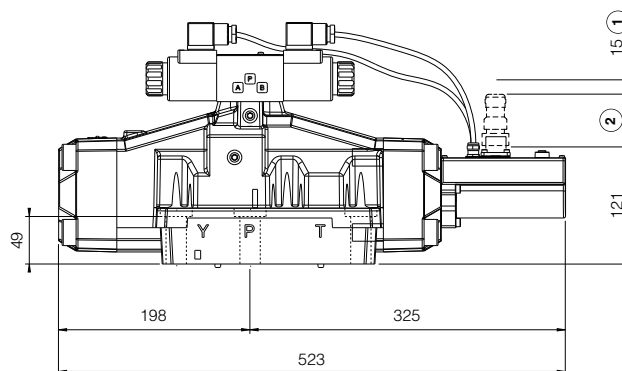
DPZE-TID-*-6

ISO 4401: 2005

Mounting surface: 4401-10-09-0-05
(see table P005)

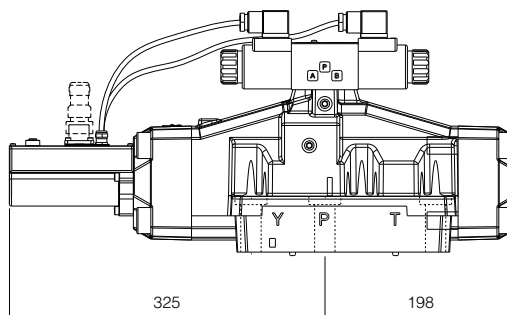


DPZE-TID-NP-67*



DPZE-*-6	Mass (kg)
all versions	43,3
option /G	+0,9

DPZE-TID-NP-67*/B



- ① Space required for connection cable and for connector removal
- ② The indicated dimension refers to the longer connectors or Bluetooth adapter
For dimensions of connectors and Bluetooth adapter, see section 12.6

17 RELATED DOCUMENTATION

FS001 Basics for digital electrohydraulics
FS900 Operating and maintenance information for proportional valves
GS500 Programming tools
GS510 Fieldbus

P005 Mounting surfaces for electrohydraulic valves
K800 Electric and electronic connectors
QB330 Quickstart for TID-NP valves commissioning
QF330 Quickstart for TID-BC valves commissioning
E-MAN-RI-TID TID user manual