

General Description

Series D1FV proportional pressure reducing valves are available with and without onboard electronics (OBE).

D1FV OBE

The digital onboard electronics is situated in a robust metal housing, which allows the usage under rough environmental conditions.

The nominal values are factory set. The cable for connection to a serial RS232 interface is available as accessory.

D1FV for External Electronics

The parameters can be saved, changed and duplicated in combination with the digital power amplifier PWD00A-400. The value parameters can be edited with the common ProPxD software for both versions.

The D1FV values control the pressure in the A- or B-ports using the barometric feedback principle.

Features

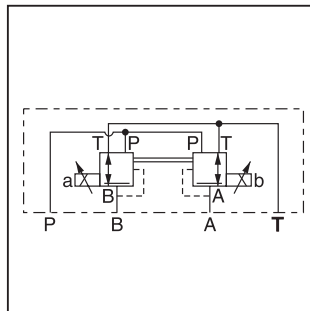
- Barometric feedback.
- 3 command options for D1FV OBE: $\pm 10V$, 4...20mA, $\pm 20mA$.
- High repeatability from valve to valve.
- Low hysteresis.
- Manual override.
- Pressure ranges 25 Bar (363 PSI) and 45 Bar (653 PSI).



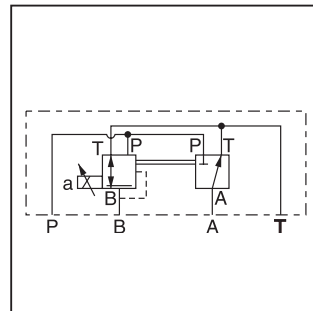
D1FV



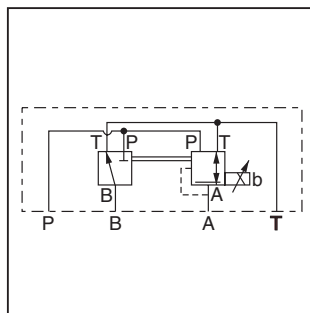
D1FV OBE



Function C

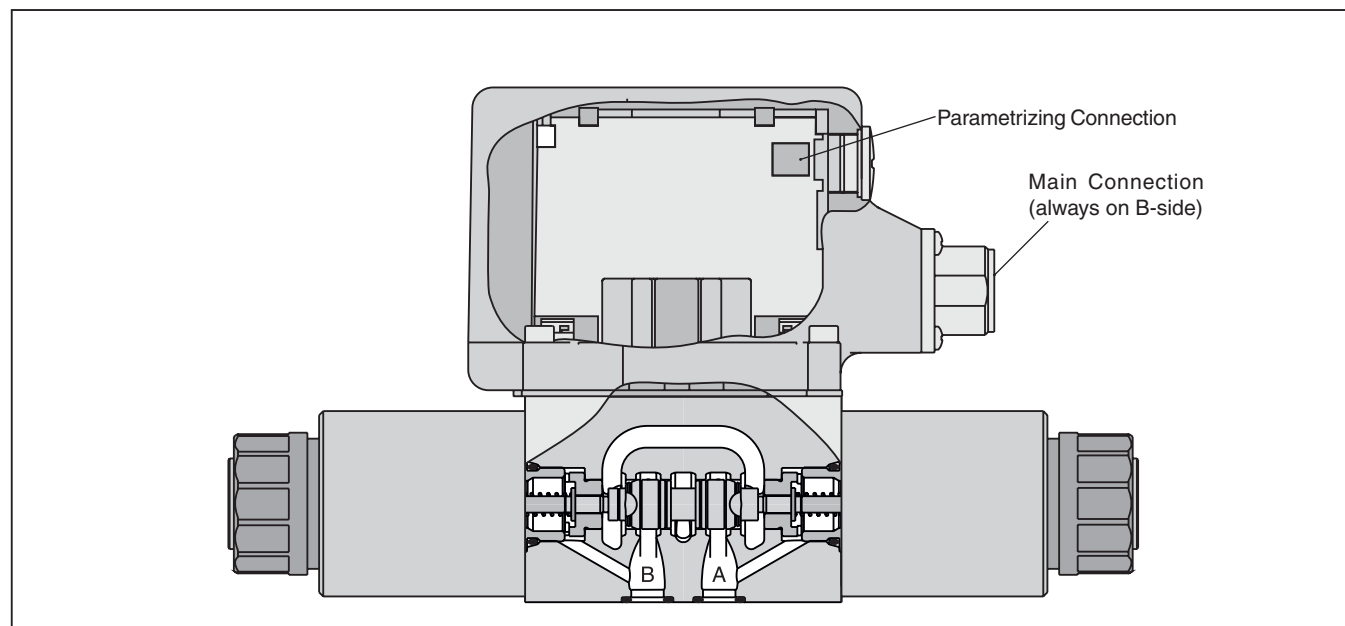


Function E



Function K

D1FV*3 OBE



D1FV Offboard Electronics

D Proportional Pressure Reducing Valve	1 Size DIN NG6 CETOP 3 NFFPA D03	F Proportional Control	V	E02 Spool Type	 Pressure Range	 Spool Position	0 Seal	K Solenoid Voltage 12V 2.2A	 Connector	3 Spool / Body Design	Design Series NOTE: Not required when ordering.
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Code	Description
C	25 Bar (363 PSI)
D	45 Bar (653 PSI)

Code	Style
C	
E	
K	

Code	Description
W*	Connector as per DIN 185301-803 without plug
J*	Connector DT04-2P "Deutsch"

* Please order plugs separately.
See Accessories.

Code	Description
N	Nitrile
V	Fluorocarbon

Weight: Offboard
D1FV 2.2 kg (4.9 lbs.)

D1FV OBE

D Proportional Pressure Reducing Valve	1 Size DIN NG6 CETOP 3 NFFPA D03	F Proportional Control	V	E02 Spool Type	 Pressure Range	 Spool Position	0 Seal	 Input Signal	 Options	3 Spool / Body Design	Design Series NOTE: Not required when ordering.
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Code	Description
C	25 Bar (363 PSI)
D	45 Bar (653 PSI)

Code	Style
C	
E	
K	

Code	Description
N	Nitrile
V	Fluorocarbon

Code	Input Signal ¹⁾	Function	Port	Options
F0	0...+/-10V	0...+10V > P-A	6 + PE	Potentiometer supply
G0	0...+/-20mA	0...+20mA > P-A	6 + PE	—
M0	0...+/-10V	0...+10V > P-B	6 + PE	Potentiometer supply
S0	4...20mA	12...20mA > P-A	6 + PE	—
W5 ²⁾	0...+/-10V 4...20mA 0...+/-20mA	0...+10V > P-A 12...20mA > P-A 0... 20mA > P-A	11 + PE	Potentiometer supply & command preset channel

Bolt Kit:

BK209 (4) 10-24x1.25

BK375 (4) M5x30

Weight: Onboard

D1FV 2.9 kg (6.4 lbs.)

Please order plugs separately. See Accessories.

¹⁾ Single solenoid always 0...+/-10V respectively 4...20mA.

²⁾ Factory set ± 10V on delivery.

Parametrizing cable OBE => RS232
Item no. 40982923

B

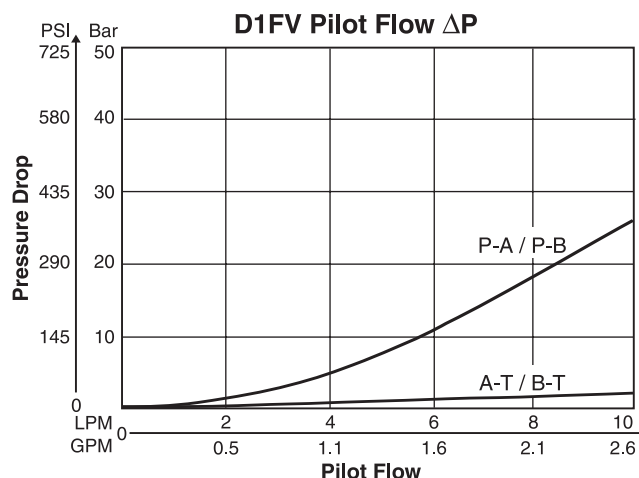
General		
Design		Direct operated proportional pressure reducing valve
Actuation		Proportional solenoid
Size		NG6 / CETOP 3 / NFPA D03
Mounting Interface		DIN 24340 / ISO 4401 / CETOP RP121 / NFPA
Mounting Position		Unrestricted
Ambient Temperature	[°C]	-20...+40; (-4°F...+104°F)
MTTF _d Value	[years]	150 (75)
Vibration Resistance	[g]	10 Sinus 5...2000 Hz acc. IEC 68-2-6 30 Random noise 20...2000 Hz acc. IEC 68-2-36 15 Shock acc. IEC 68-2-27
Hydraulic		
Maximum Operating Pressure		Ports P, A, B 350 Bar (5075 PSI) Port T 185 Bar (2683 PSI)
Maximum Pressure Drop PABT / PBAT		350 Bar (5075 PSI)
Fluid		Hydraulic oil as per DIN 51524...535, other on request
Fluid Temperature	[°C]	-20...+40 (-4°F...+104°F)
Viscosity Permitted	[cSt] / [mm²/s]	20...380 (93...1761 SSU)
Recommended	[cSt] / [mm²/s]	30...80 (139...371 SSU)
Filtration		ISO 4406 (1999) 18/16/13 (acc. NAS 1638: 7)
Maximum Flow		10 LPM (2.6 GPM)
Minimum Primary Pressure		30 Bar (435 PSI)
Static / Dynamic		
Hysteresis	[%]	<4
Temperature Drift Solenoid Current	[%/K]	<0.02
Electrical		
Duty Ratio	[%]	100
Protection Class		Standard (as per EN175301-803) IP65 in accordance with EN60529 (with correctly mounted plug-in connector); DT04-2P “Deutsch” IP69K (with correctly mounted plug-in connector)
Supply Voltage	[V]	12
Current Consumption	[A]	2.2
Resistance	[Ohm]	4.4
Coil Insulation Class		F (155 °C) (311°F)
Solenoid Connection		Connector as per EN 175301-803 (code W), DT04-2P “Deutsch“ connector (code J). Solenoid identification as per ISO 9461.
Wiring Minimum	[mm²]	3x1.5 (AWG 16) overall braid shield (Code W), "Deutsch" connector DP4 2-Pin (Code J)
Wiring Length Maximum	[m]	50 (164 ft.) recommended

With electrical connections the protective conductor (PE $\perp$) must be connected according to the relevant regulations.

Electrical Specifications

Electrical		
Duty Ratio	[%]	100
Protection Class		IP65 in accordance with EN 60529 (plugged and mounted)
Supply Voltage/ripple DC	[V]	18...30, ripple < 5% eff., surge free
Current Consumption Maximum	[A]	2.0
Pre-fusing Medium Lag	[A]	2.5
Input Signal		
Codes F0 & W5 Voltage	[V]	+10...0...-10, ripple < 0.01 % eff., surge free, Ri = 100kOhm, 0...+10V => P -> A
Code M0 Voltage	[V]	+10...0...-10, ripple < 0.01 % eff., surge free, Ri = 100kOhm, 0...+10V => P -> B
Codes S0 & W5 Current	[mA]	4...12...20, ripple < 0.01 % eff., surge free, Ri = 200Ohm, 12...20mA => P -> A < 3.6 mA = enable off, > 3.8 mA = enable on (acc. to NAMUR NE43)
Code G0	[mA]	+20...0...-20, ripple < 0.01 % eff., surge free, Ri = 200Ohm, 0...+20mA => P -> A
Differential input max.		
Codes F0, G0, M0 & S0	[V]	30 for terminal D and E against PE (terminal G) 11 for terminal D and E against 0V (terminal B)
Code W5	[V]	30 for terminal 4 and 5 against PE (terminal PE) 11 for terminal 4 and 5 against 0V (terminal 2)
Channel Recall Signal	[V]	0...2.5: off / 5...30: on / Ri = 100 kOhm
Adjustment Ranges:		
Min	[%]	0...50
Max	[%]	50...100
Ramp	[s]	0...32.5
Interface		RS 232, parametrizing connection 5 pole
EMC		EN 61000-6-2, EN 61000-6-4
Central Connection		
Codes F0, G0 M0 & S0		6 + PE acc. to EN 175201-804
Code W5		11 + PE acc. to EN 175201-804
Wiring Minimum		
Codes F0, G0 M0 & S0	[mm ²]	7 x 1.0 (AWG16) overall braid shield
Code W5	[mm ²]	11 x 1.0 (AWG16) overall braid shield
Wiring Length Maximum	[m]	50 (164 ft.)

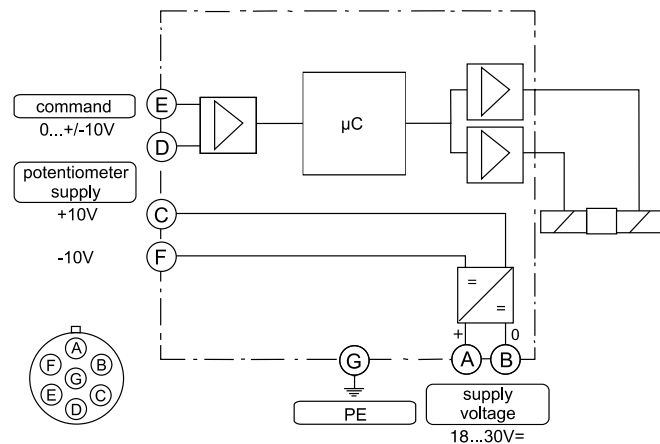
Performance Curves



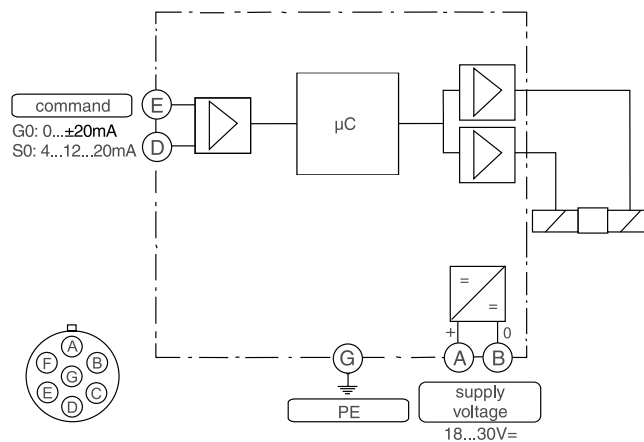
All performance curves measured with HLP46 at 50°C (122°F).

D1FV.indd, dd

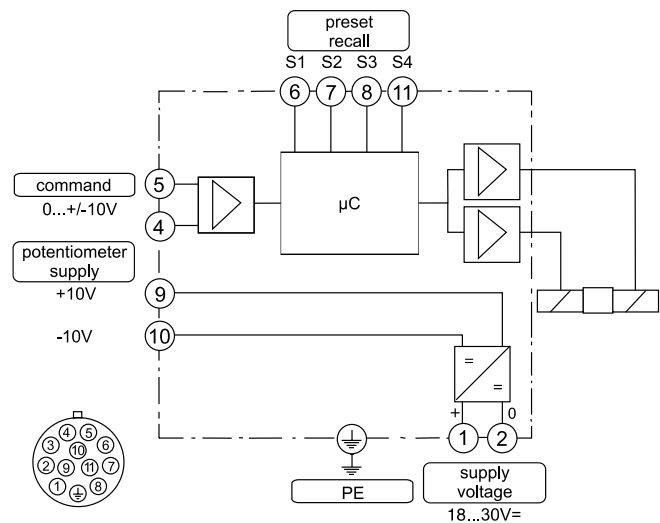
Code F0, M0
6 + PE acc. to EN 175201-804



Code G0, S0
6 + PE acc. to EN 175201-804



Code W5
11 + PE acc. to EN 175201-804



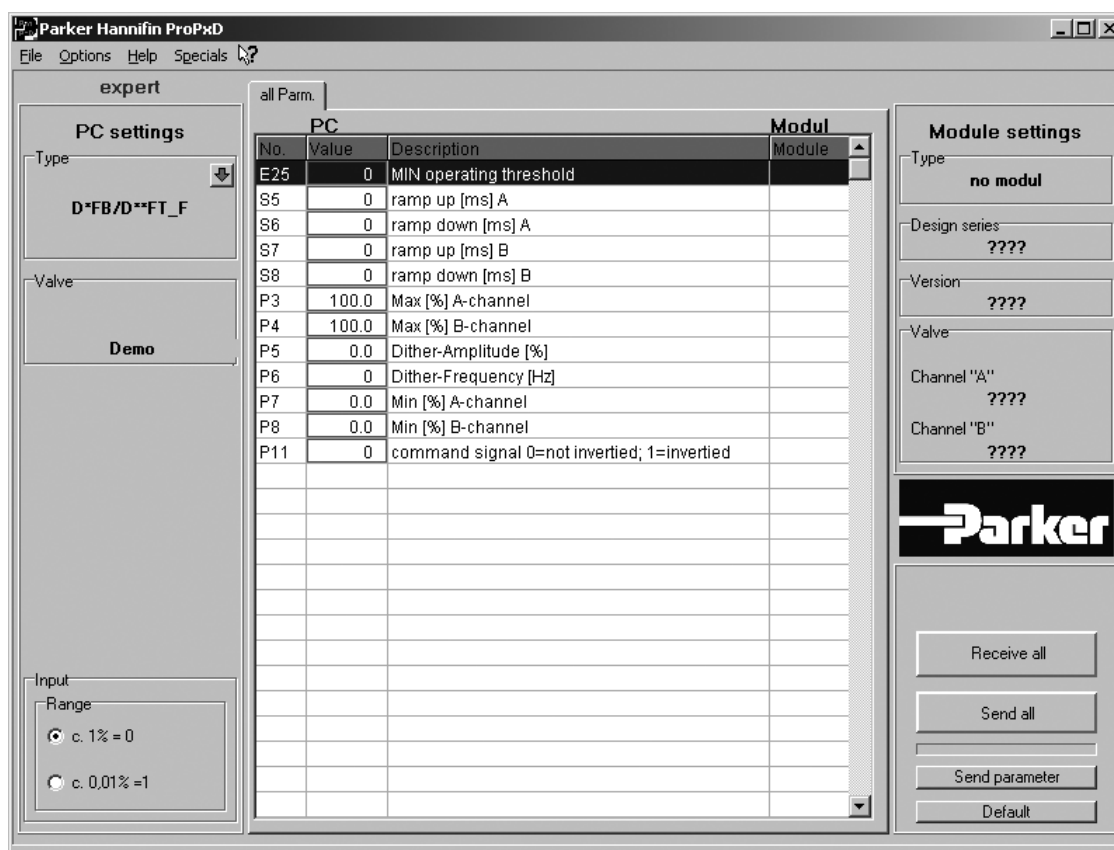
ProPxD Interface Program

The ProPxD software permits comfortable parameter setting for the module electronics. Via the clearly arranged entry mask the parameters can be noticed and modified. Storage of complete parameter sets is possible as well as printout or record as a text file for further documentation. Stored parameter sets may be loaded anytime and transmitted to other valves. Inside the electronics a nonvolatile memory stores the data with the option for recalling or modification.

Features

- Simple editing of all parameters.
- Storage and loading of optimized parameter adjustments.
- Executable with all Windows® operating systems from Windows® 95 upwards.
- Communication between PC and electronics via serial interface RS-232.
- Simple to use PC user software, free of charge:
www.parker.com/euro_hcd
 – see "Software Downloads"

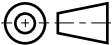
B



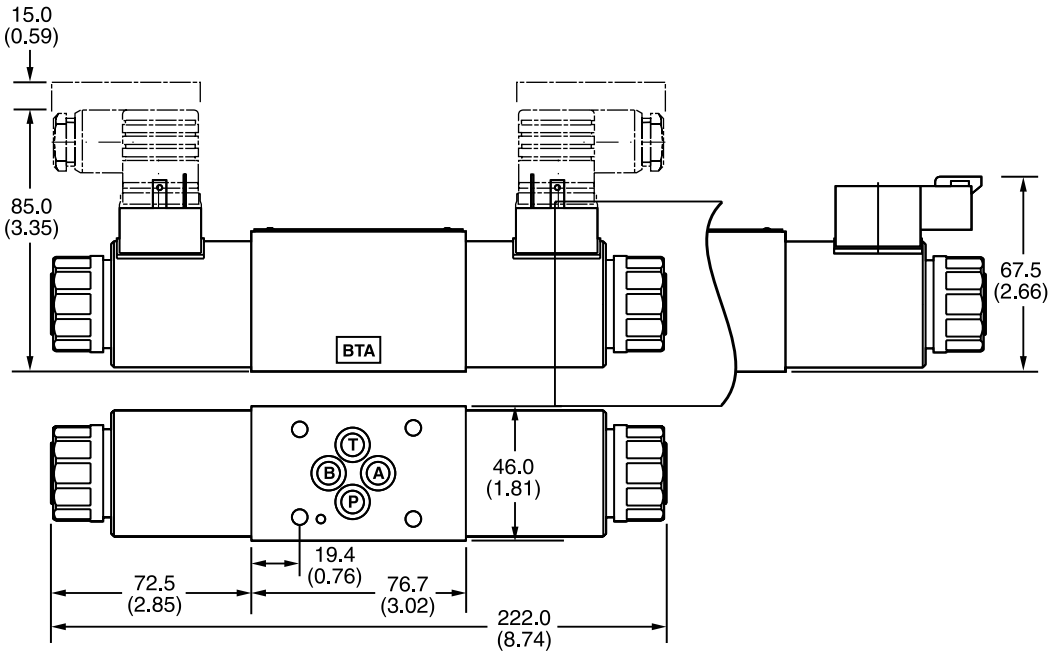
The parametrizing cable may be ordered under item no. 40982923.

Inch equivalents for millimeter dimensions are shown in (**)

D1FV*C

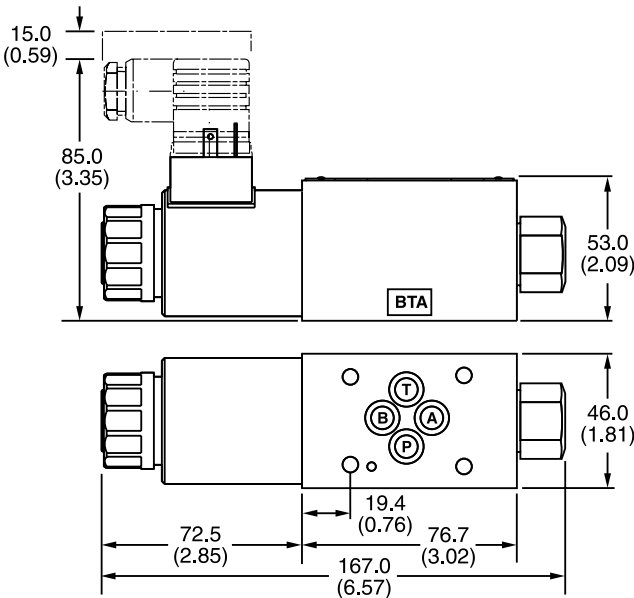
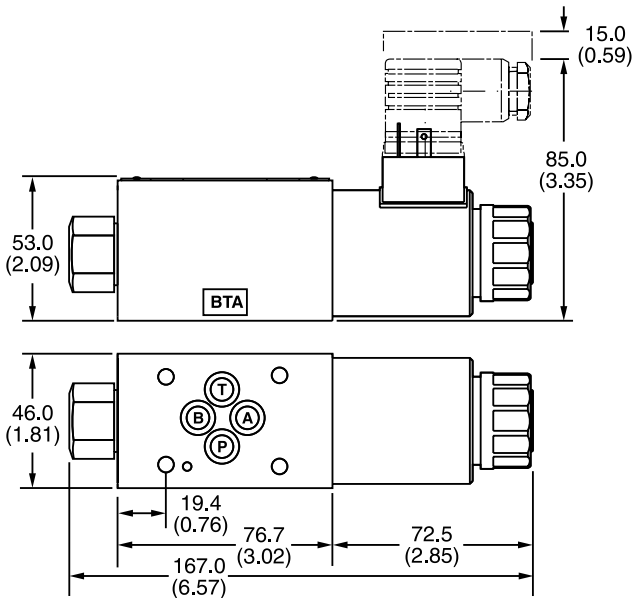


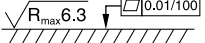
B



D1FV*E

D1FV*K

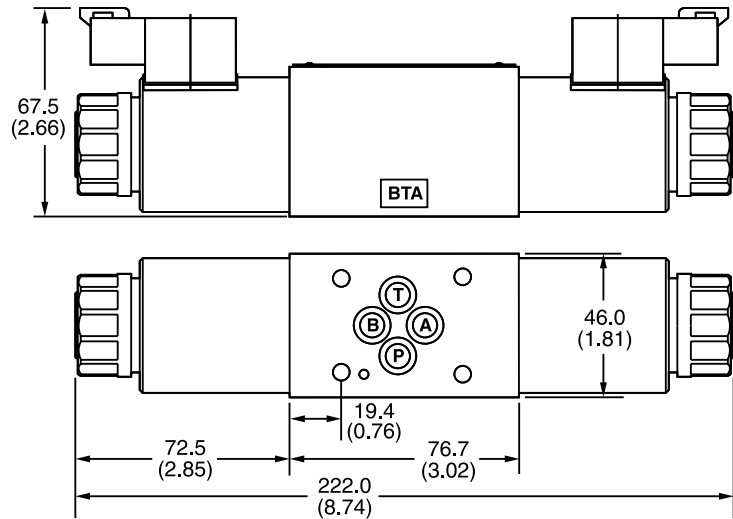
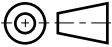


Surface Finish	 Kit			Seal  Kit
	BK375	4x M5x30 DIN 912 12.9	7.6 Nm (5.6 lb.-ft.) ±15 %	Nitrile: SK-D1FB-N Fluorocarbon: SK-D1FBV

D1FV.indd, dd

Inch equivalents for millimeter dimensions are shown in (**)

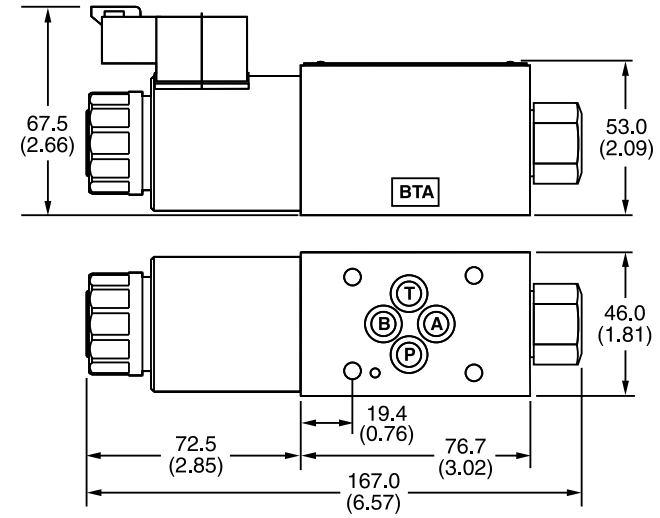
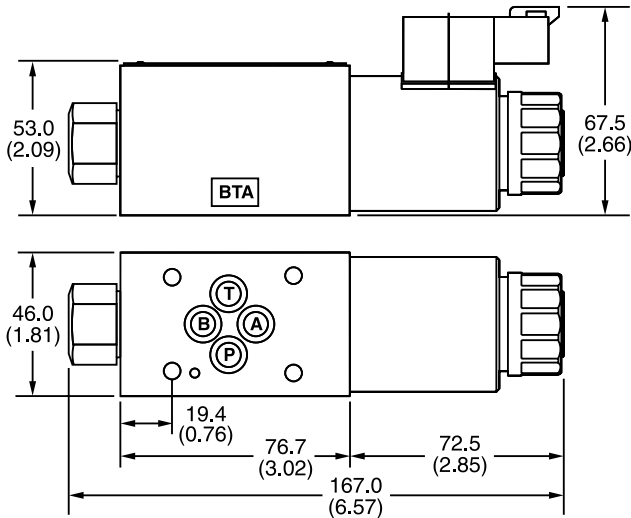
D1FV*C with DT04-2P “Deutsch” Connector



B

D1FV*E with DT04-2P “Deutsch” Connector

D1FV*K with DT04-2P “Deutsch” Connector

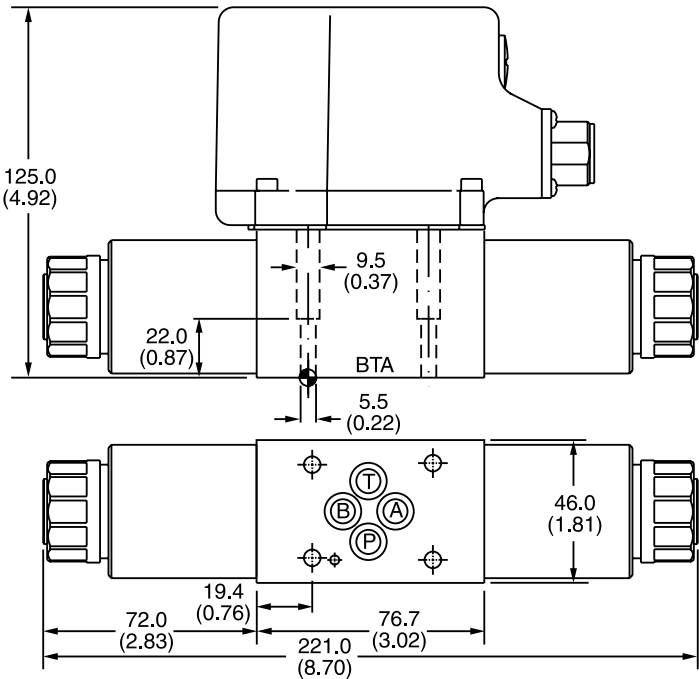
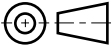


Surface Finish	Kit	Kit	Kit	Seal Kit
	BK375	4x M5x30 DIN 912 12.9	7.6 Nm (5.6 lb.-ft.) ±15 %	Nitrile: SK-D1FB-N Fluorocarbon: SK-D1FBV

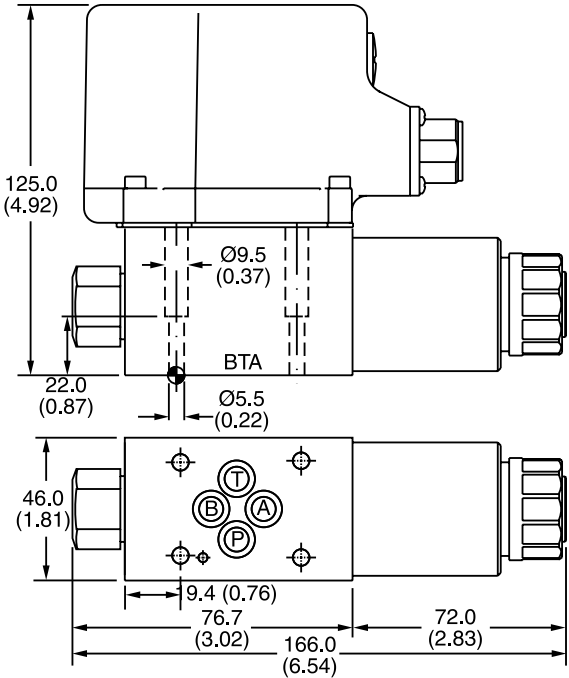
D1FV.indd, dd

Inch equivalents for millimeter dimensions are shown in (**)

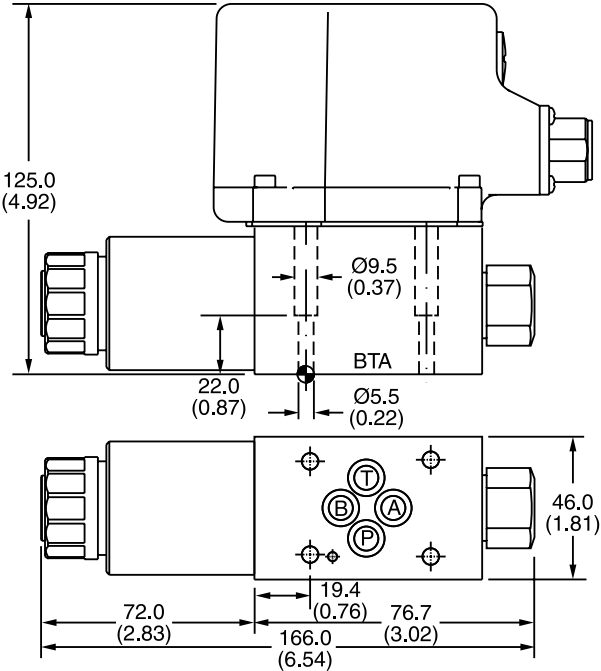
D1FV*C OBE

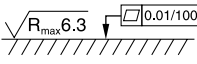


D1FV*E OBE



D1FV*K OBE



Surface Finish	 Kit	 Kit	 Kit	Seal  Kit
	BK375	4x M5x30 DIN 912 12.9	7.6 Nm (5.6 lb.-ft.) ±15 %	Nitrile: SK-D1FB-N Fluorocarbon: SK-D1FBV

D1FV.indd, dd