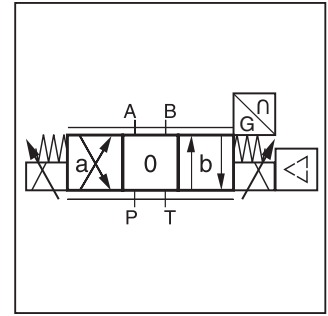
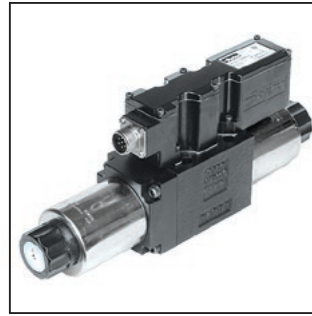


General Description

Series D3FC (NG10) direct operated, proportional directional control valve with digital onboard electronics and position feedback provides high dynamics combined with high flow.

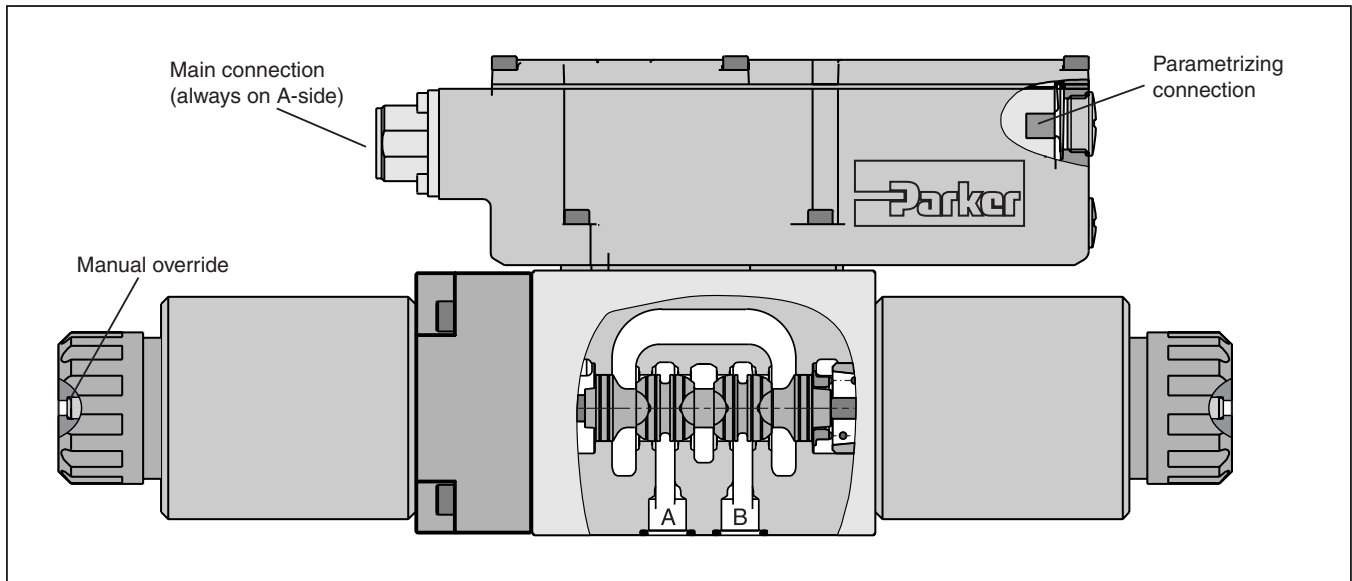
The LVDT is completely integrated into the housing and therefore, it does not require an exposed cable connection. Thus an unintended disconnection is unlikely.

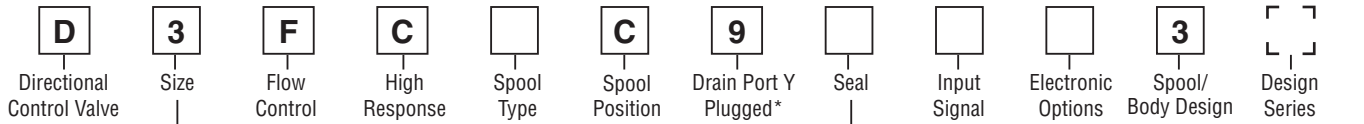
The digital onboard electronics is situated in a robust metal housing, which allows the usage in rough environmental conditions. The nominal values are factory set. The cable connection to a serial RS-232 interface is available as accessory.



Features

- Progressive flow characteristics for sensitive adjustment.
- Low hysteresis.
- High dynamics.
- High flow capacity.
- Compact size.





Code	Description
3	DIN NG10 CETOP 5 NFPA D05

Code	Spool	Flow LPM (GPM) at Δp 5 Bar (72.5 PSI) per metering edge
Overlap		
E01M E01S E01U		35 (9.3) 55 (14.6) 75 (19.8)
E02M E02S E02U		35 (9.3) 55 (14.6) 75 (19.8)
B31M B31S B31U	$Q_B = Q_A / 2$ 	17 / 35 (4.5 / 9.3) 27 / 55 (7.1 / 14.6) 37 / 75 (9.8 / 19.8)
B32M B32S B32U	$Q_B = Q_A / 2$ 	17 / 35 (4.5 / 9.3) 27 / 55 (7.1 / 14.6) 37 / 75 (9.8 / 19.8)

Please order connector separately. See Accessories.

Code	Description
N	Nitrile
V	Fluorocarbon

Code	Signal	Function
B	0...±10V	0...+10V P -> A
E	0...±20mA	0...+20mA P -> A
S	4...20mA	12...20mA P -> A

Code	Description
0	6+PE acc. EN175201-804
5	11+PE acc. EN175201-804
7	6+PE + Enable acc. EN175201-804

NOTE:
Not required when ordering.

Parametrizing cable OBE => RS-232
 Item no. 40982923

* Needs to be removed at tank pressure >35 Bar (507.5 PSI).

Bolt Kit:

- BK98 (4) 1/4-20x1.625 SHCS
- BK385 (4) M6x40

Weight:

D3FC 7.7 kg (17.0 lbs.)

General			
Design		Direct operated proportional DC valve with position feedback	
Actuation		Proportional solenoid	
Size		NG10 / CETOP 5 / NFPA D05	
Mounting Interface		DIN 24340 / ISO 4401 / CETOP RP121 / NFPA	
Mounting Position		Unrestricted	
Ambient Temperature Range		[°C]	-20...+60 (-4°F to +122°F)
MTTF Value ¹⁾		Years	150
Vibration Resistance		[g]	10 Sinus 5...2000 Hz acc. IEC 68-2-6 30 Random noise 20 to 2000 Hz acc. IEC 68-2-36 15 Shock acc. IEC 68-2-27
Hydraulic			
Maximum Operating Pressure		Internal Ports P, A, B: 350 Bar (5075 PSI); port T: max. 35 Bar (508 PSI) External Drain 210 Bar (3045 PSI); port Y: max. 35 Bar (508 PSI)	
Maximum Pressure Drop PABT / PBAT		350 Bar (5075 PSI)	
Fluid		Hydraulic oil as per DIN 51524...51535, other on request	
Fluid Temperature		[°C]	-20...+60 (-4°F to +140°F); Nitrile -25...+60 (-13°F to +140°F)
Viscosity		Permitted Recommended	[cSt] / mm ² /s [cSt] / mm ² /s
			20...400 cSt / mm ² /s (93...1854 SSU) 30...80 cSt / mm ² /s (139...371 SSU)
Filtration		ISO Class 4406 (1999) 18/16/13	
Nominal Flow at Δp=5 Bar (72.5 PSI) per control edge ²⁾		35/55/75 LPM (9.3/14.6/19.8 GPM)	
Leakage at 100 Bar (1450 PSI)		[ml/min]	<100 (6.1 cu. in.)
Opening point		[%]	set to 10 command signal (see performance curves)
Static / Dynamic			
Step Response at 100% Stroke ³⁾		[ms]	40
Hysteresis		[%]	< 0.1
Temperature Drift		[%/K]	< 0.01
Electrical			
Duty Ratio		[%]	100
Protection Class		IP65 in accordance with EN 60529 (plugged and mounted)	
Supply Voltage / Ripple		[V]	18...30, electric shut-off at <17, ripple < 5% eff., surge free
Current Consumption Maximum		[A]	3.5
Pre-Fusing Medium Lag		[A]	4.0
Input Signal			
Code B	Voltage Impedance	[V] [kOhm]	+10...0...-10, ripple < 0.01% eff., surge free, 0...+10V P→A 100
Code S	Current	[mA]	4...12...20, ripple < 0.01% eff., surge free, 12...20 mA P→A < 3.6 mA = enable off, > 3.8 mA = enable on acc. NAMUR NE43
Code E	Impedance Current Impedance	[Ohm] [mA] [Ohm]	200 +20...0...-20, ripple < 0.01% eff., surge free, 0...+20 mA P→A 200 Ohm
Differential Input Maximum			
Code 0 / 7		[V]	30V for terminal D and E against PE (terminal G) 11V for terminal D and E against 0V (terminal B)
Code 5		[V]	30V for terminal 4 and 5 against PE (terminal PE) 11V for terminal 4 and 5 against 0V (terminal 2)
Adjustment Ranges		Minimum Maximum Ramp	[%] [%] [s]
			0...50 50...100 0...32.5
Parametrizing Interface		RS-232, parametrizing connection 5 pole	
Enable Signal		Code 5 / 7	[V]
			5...30
Diagnostic Signal			[V]
			+10...0...-10 / +12.5 error detection, rated maximum 5 mA
EMC		EN 61000-6-2, EN 61000-6-4	
Electrical Connection		Code 0 / 7 Code 5	
			6 + PE acc. to EN 175201-804 11 + PE acc. to EN 175201-804
Wiring Minimum		[mm ²]	7 x 1.0 (AWG16) overall braid shield
Wiring Length Maximum		[m]	50 (164 ft.)

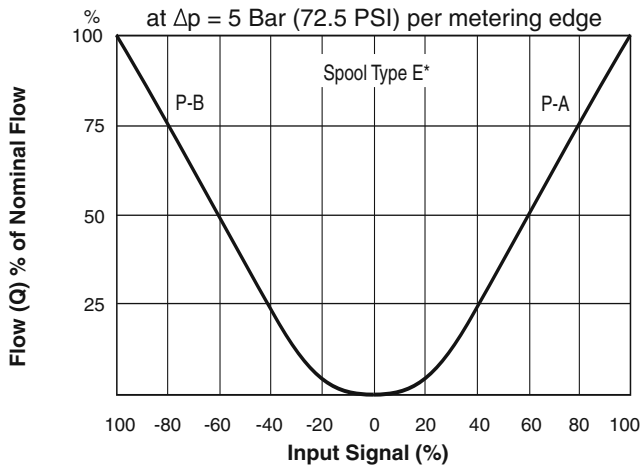
¹⁾ If valves with onboard electronics are used in safety-related parts of control systems, in case the safety function is requested, the valve electronics voltage supply is to be switched off by a suitable switching element with sufficient reliability.

²⁾ Flow rate for different Δp per control edge: $Q_x = Q_{Nom.} \cdot \sqrt{\frac{\Delta p_x}{\Delta p_{Nom.}}}$

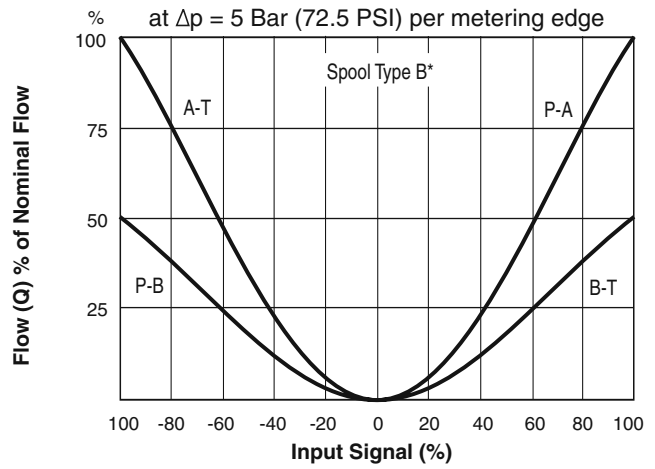
³⁾ Measured with load 210 Bar (3045 PSI) pressure drop; two control edges.

(Electrically set to opening point 10%)

Spool type E01/02



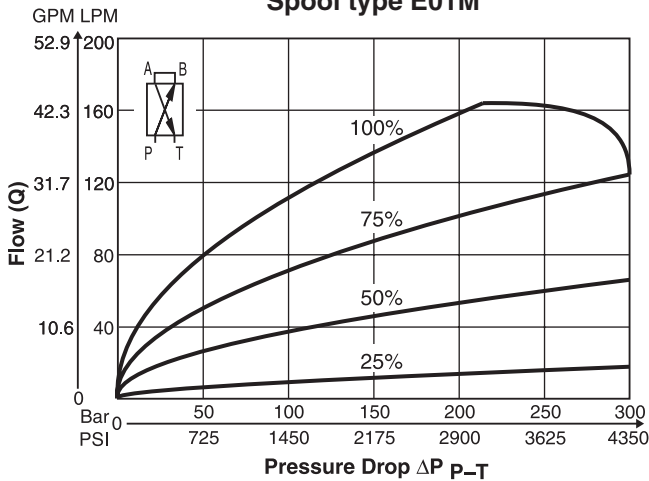
Spool type B31/32



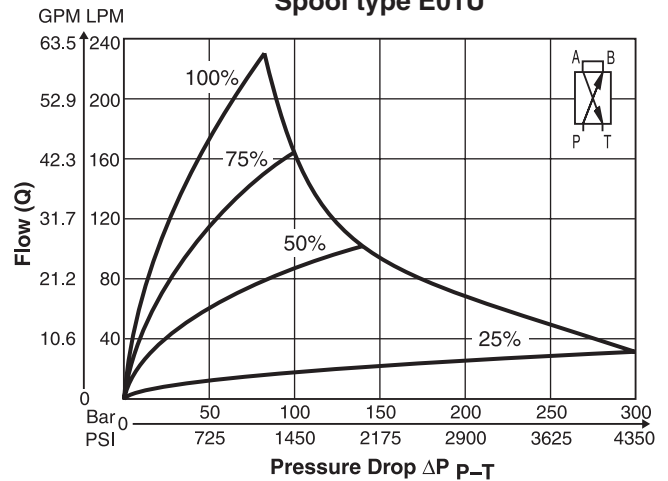
Functional limits

25%, 50%, 75% and 100% command signal (symmetric flow).
 At asymmetric flow a reduced flow limit has to be considered.

Spool type E01M

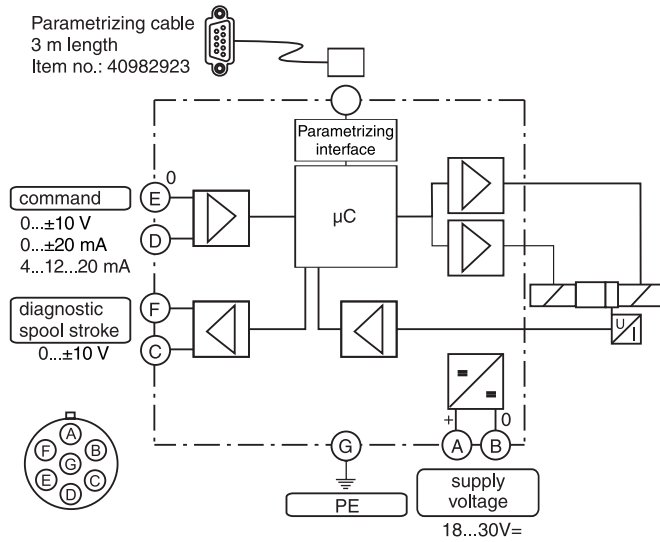


Spool type E01U

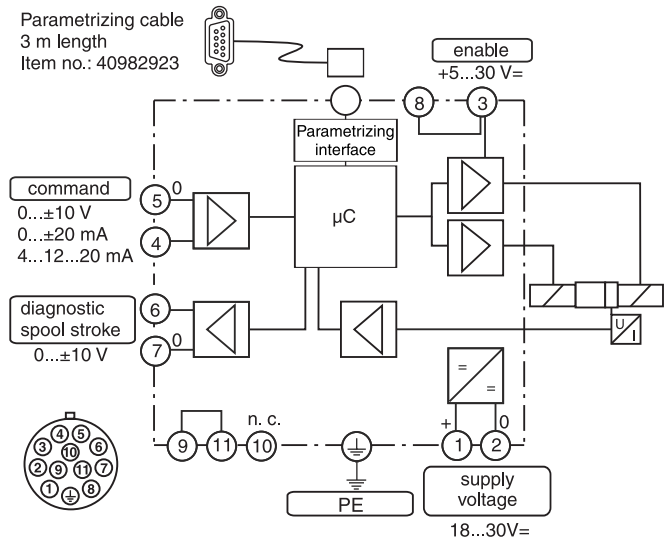


All characteristic curves measured with HLP46 at 50 °C.

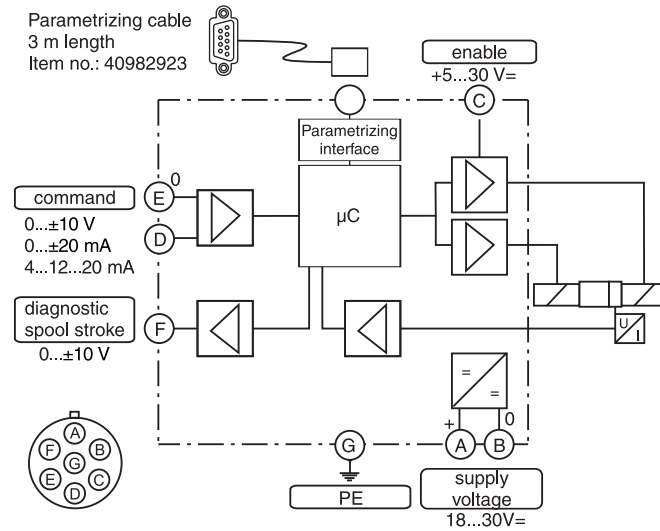
**Code 0
 6 + PE acc. EN 175201-804**



**Code 5
 11 + PE acc. EN 175201-804**



**Code 7
 6 + PE acc. EN 175201-804 + Enable**



ProPxD Interface Program

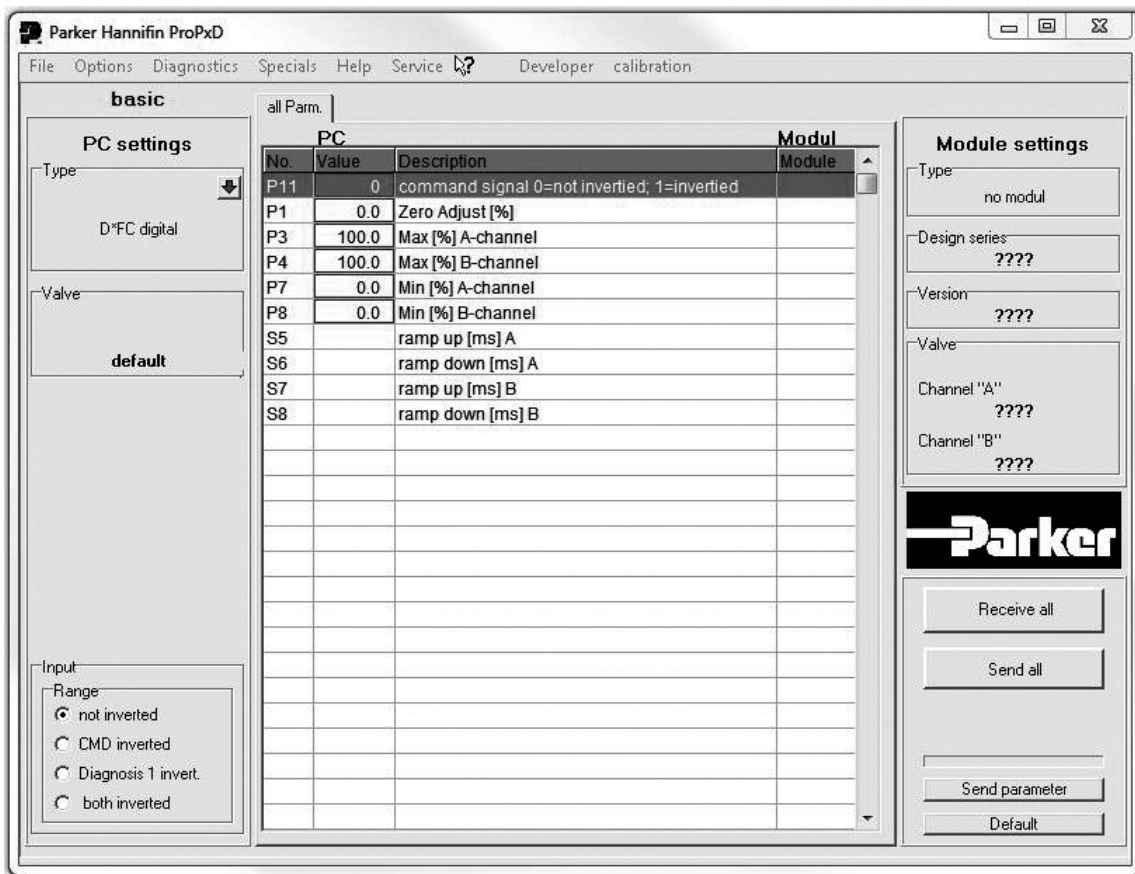
The ProPxD software allows quick and easy setting of the digital valve electronics. Individual parameters as well as complete settings can be viewed, changed and saved via the comfortable user interface. Parameter sets saved in the non-volatile memory can be loaded to other valves of the same type or printed out for documentation purposes.

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.

The valve electronics cannot be connected to a PC with a standard USB cable – this can result in damages of PC and/or valve electronics.

Simple to use interface program. Download free of charge www.parker.com/euro_hcd → **Services** → **downloads**

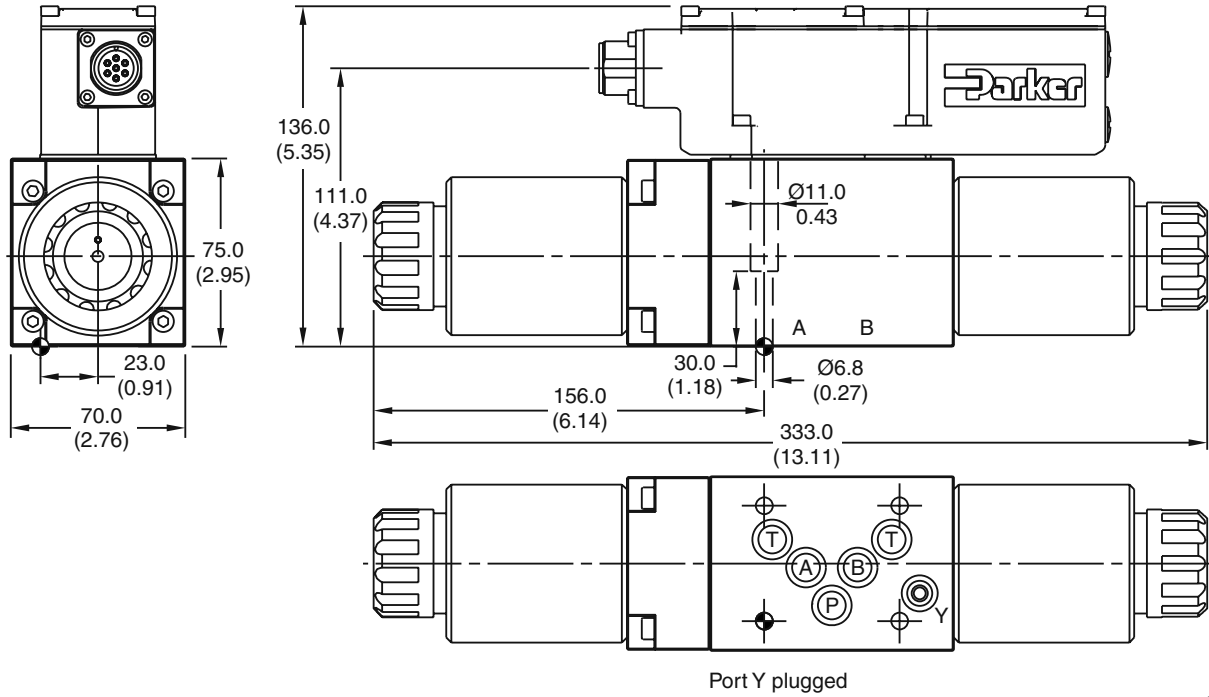


The parametrizing cable may be ordered under item no. 40982923.

Dimensions

**Proportional Directional Control Valves
Series D3FC**

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



Remove and use Y Port if tank pressure > 35 Bar (507 PSI)



Surface Finish	Kit	Kit	Kit	Seal Kit
 $\sqrt{R_{max}6.3}$	BK385 BK98	4x M6x40 DIN 912 12.9 4x 1/4-20x1.625	13.2 Nm (9.7 lb.-ft.) ±15 %	Nitrile: SK-D3FC Fluorocarbon: SK-D3FC-V



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