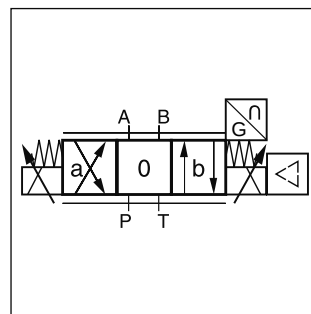


The new direct operated proportional DC valve series D1FC (NG06) with digital onboard electronics and position feedback provides high dynamics combined with high flow.

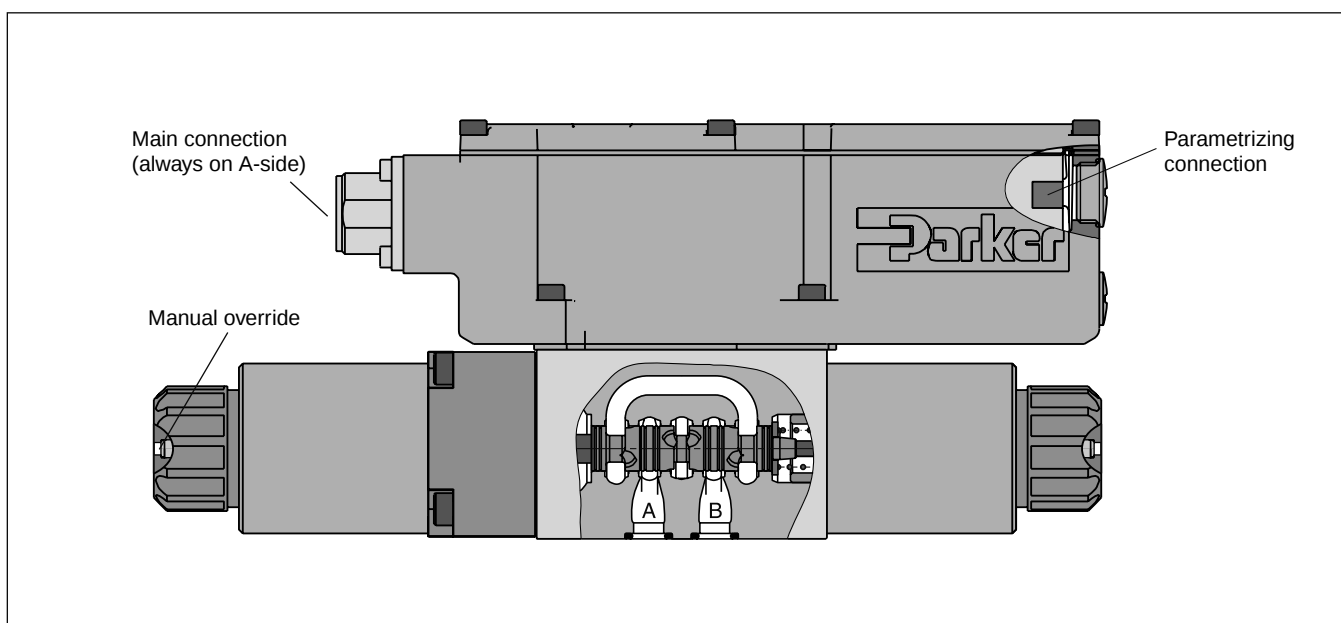
The LVDT is completely integrated into the housing and therefore it does not require an exposed cable connection. Thus an unintended disconnection is impossible.

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 connection to a serial RS232 interface is available as accessory.



Features

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



Ordering Code

Direct Operated Proportional DC Valve
Series D1FC

D	1	F	C		C	9				3	
Direct Operated DC Valve	Size DIN NG06 CETOP 03 NFA D03	Proportional control	High dynamics	Spool type	Spool position	Drain port Y plugged ¹⁾	Seal	Command signal	Electronic option	Spool/body design	Design series (not required for ordering)

Code	Spool type	Flow [l/min] at Δp 5 bar per metering edge
Overlap		
E01F		10
E01H		20
E01K		30
E02F		10
E02H		20
E02K		30
B31F		5 / 10
B31H		10 / 20
B31K		15 / 30
B32F		5 / 10
B32H		10 / 20
B32K		15 / 30

Code	Electronic option ²⁾
0	6+PE acc. EN175201-804
5	11+PE acc. EN175201-804
7	6+PE + enable acc. EN175201-804

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

Code	Seal
N	NBR
V	FPM

Short delivery time
for all variations

Parametrizing cable OBE → RS232, item no. 40982923

¹⁾ Plug in port Y needs to be removed at tank pressure >35 bar.

²⁾ Please order connector separately, see chapter 3 accessories.

General				
Design		Direct operated proportional DC valve with position feedback		
Actuation		Proportional solenoid		
Size		NG06 / CETOP 03 / NFPA D03		
Mounting interface		DIN 24340 / ISO 4401 / CETOP RP121 / NFPA		
Mounting position		unrestricted		
Ambient temperature		[°C]	-20...+60	
MTTF _D value ¹⁾		[years]	150	
Weight		[kg]	3.4	
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				
Max. operating pressure		[bar]	Ports P, A, B 350, port T max. 35; 210 (external drain); port Y max. 35	
Max. pressure drop PABT / PBAT		[bar]	350	
Fluid		Hydraulic oil according to DIN 51524 ... 535, other on request		
Fluid temperature		[°C]	-20...+60 (NBR: -25...+60)	
Viscosity	permitted	[cSt]	[mm²/s]	20...400
	recommended	[cSt]	[mm²/s]	30...80
Filtration		ISO 4406 (1999); 18/16/13		
Nominal flow at Δp=5 bar per control edge ²⁾		[l/min]	10 / 20 / 30	
Leakage at 100 bar		[ml/min]	<60	
Opening point		[%]	set to 10 command signal (see flow characteristics)	
Static / Dynamic				
Step response at 100 % step		[ms]	20	
Hysteresis		[%]	<0.1	
Temperature drift		[%/K]	<0.01	
Electrical characteristics				
Duty ratio		[%]	100	
Protection class		IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)		
Supply voltage/ripple DC		[V]	18...30, electric shut-off at < 17, ripple < 5 % eff., surge free	
Current consumption max.		[A]	2.0	
Pre fusing medium lag		[A]	2.5	
Command	Code B	voltage	[V]	+10...0...-10, ripple < 0.01% eff., surge free, 0...+10 V P→A
	Code S	impedance	[kOhm]	100
		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 (according to NAMUR NE43)
	Code E	impedance	[Ohm]	200
		current	[V]	+20...0...-20, ripple < 0.01 % eff., surge free, 0...+20 mA P→A
		impedance	[Ohm]	200
Differential input max. Code 0/7		[V]	30 for terminal D and E against PE (terminal G) 11 for terminal D and E against 0 V (terminal B)	
Code 5			30 for terminal 4 and 5 against PE (terminal PE) 11 for terminal 4 and 5 against 0 V (terminal 2)	
Adjustment ranges	Min	[%]	0...50	
	Max	[%]	50...100	
	Ramp	[s]	0...32.5	
Parametrizing interface		RS232C, parametrizing connection 5pole		
Enable signal (code 5/7)		[V]	5...30	
Diagnostic signal		[V]	+10...0...-10 / +12.5 error detection, rated max. 5 mA	
EMC		EN 61000-6-2, EN 61000-6-4		
Electrical connection	Code 0/7	6 + PE acc. to EN 175201-804		
	Code 5	11 + PE acc. to EN 175201-804		
Wiring min.		[mm²]	7 x 1.0 (AWG 16) overall braid shield	
Wiring length max.		[m]	50	

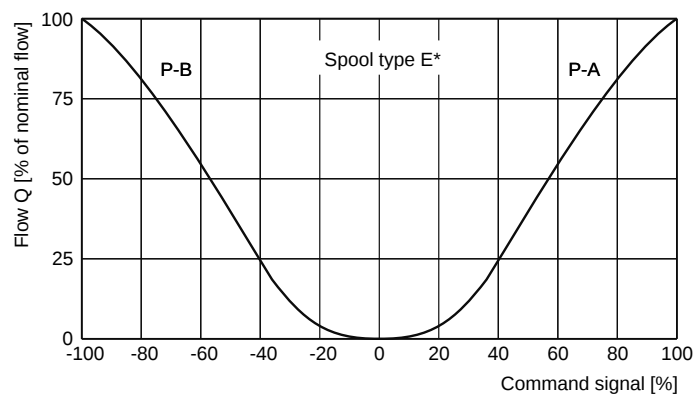
¹⁾ If valves with onboard electronics are used in safety-related parts of control systems, in case the safety function is requested, the valve electronics voltage supply is to be switched off by a suitable switching element with sufficient reliability.

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

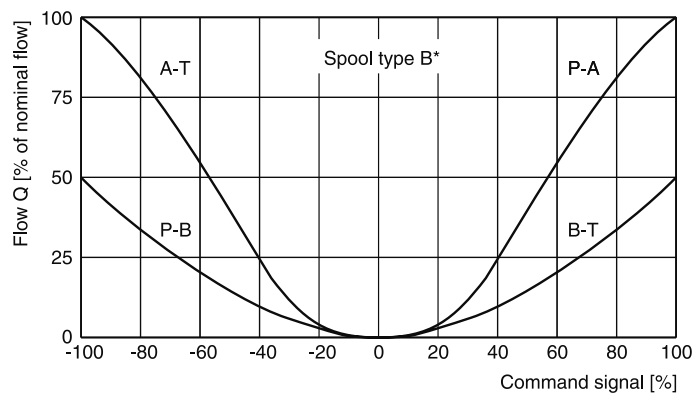
Flow characteristics

(set to opening point 10 %) at $\Delta p = 5$ bar per metering edge

Spool type E01/02



Spool type B31/32

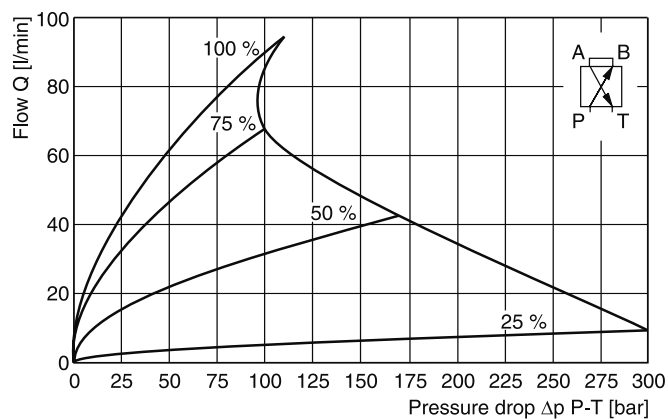


Functional limits

25 %, 50 %, 75 % and 100 % command signal (symmetric flow).

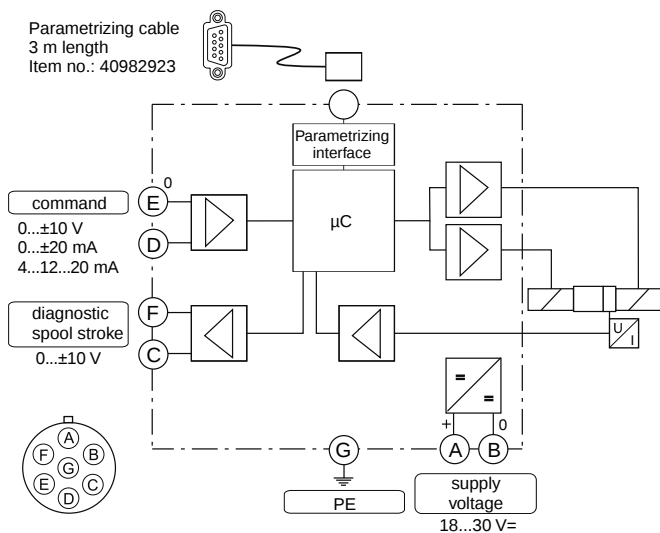
At asymmetric flow a reduced flow limit has to be considered.

Spool type E01K

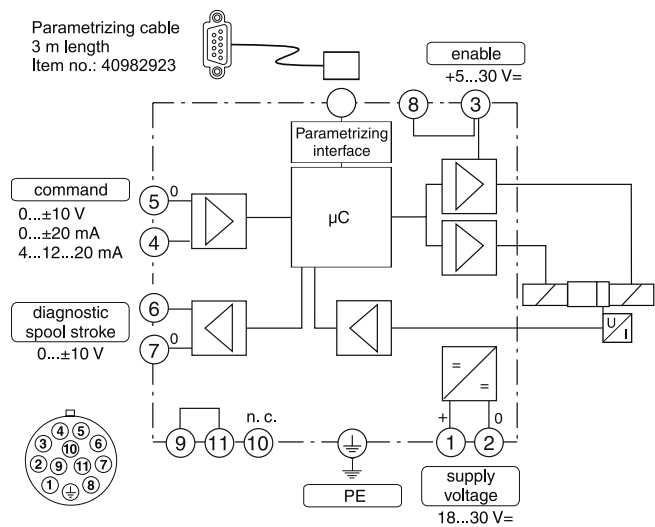


All characteristic curves measured with HLP46 at 50 °C.

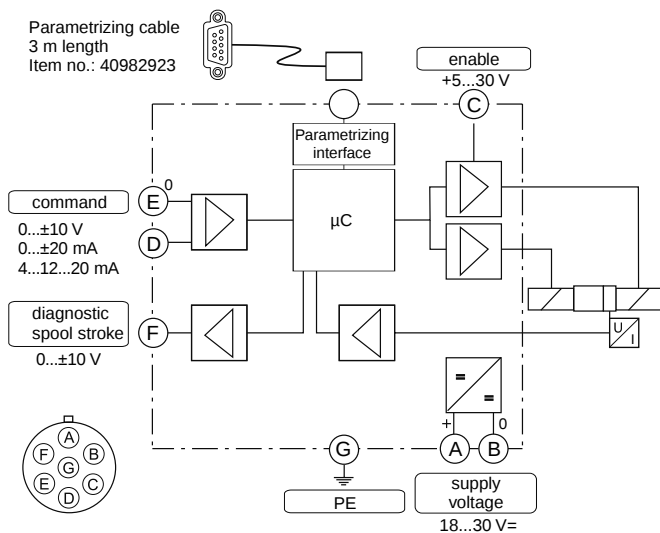
Code 0
 6 + PE acc. to EN 175201-804



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



Code 7
 6 + PE acc. to EN 175201-804 + enable



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 non-volatile memory stores the data with the option for recalling or modification.

The PC software can be downloaded free of charge at www.parker.com/euro_hcd – see page "Support" or directly at www.parker.com/propxd.

Features

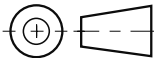
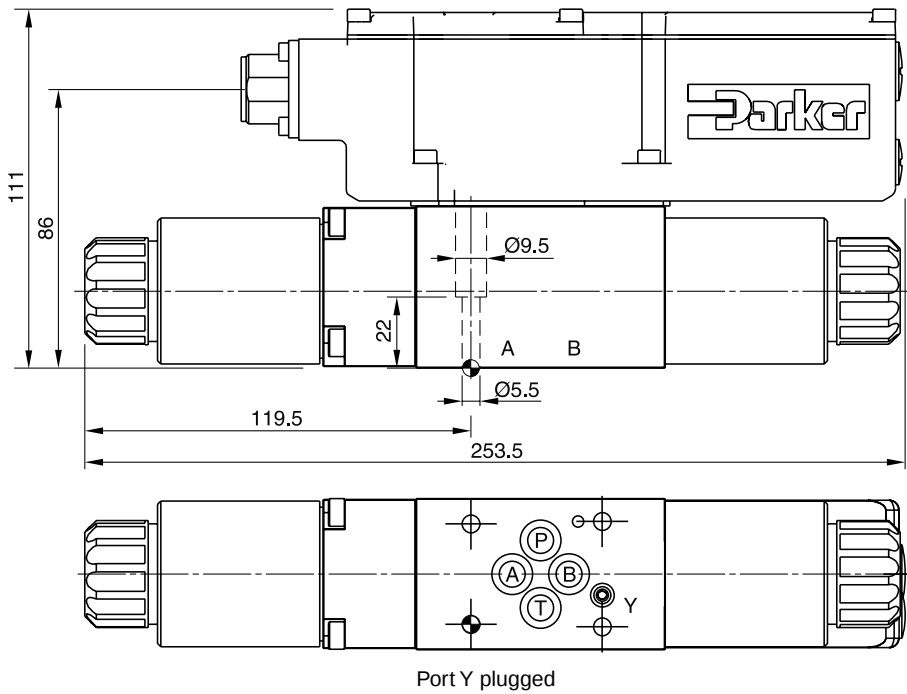
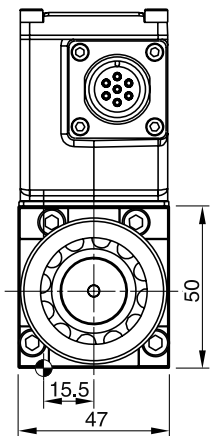
- Comfortable editing of all parameters
- Depiction and documentation of parameter sets
- Storage and loading of optimized parameter adjustments
- Executable with all actual Windows® operating systems from Windows® XP upwards
- Plain communication between PC and electronics via serial interface RS232C

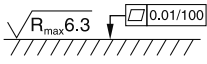
The parametrizing cable may be ordered under item no. 40982923.

3

PC			Modul
No.	Value	Description	Module
P1	0.0	zero adjustment [%]	
P3	100.0	MAX A-channel [%]	
P4	100.0	MAX B-channel [%]	
P7	0.0	MIN A-channel [%]	
P8	0.0	MIN B-channel [%]	
S5	0	ramp up A-channel [ms]	
S6	0	ramp down A-channel [ms]	
S7	0	ramp up B-channel [ms]	
S8	0	ramp down B-channel [ms]	

3



Surface finish	 Kit	 Kit	 Kit	 Kit NBR
	BK375	4x M5x30 ISO 4762-12.9	7.6 Nm ±15 %	NBR: SK-D1FC FPM: SK-D1FC-V