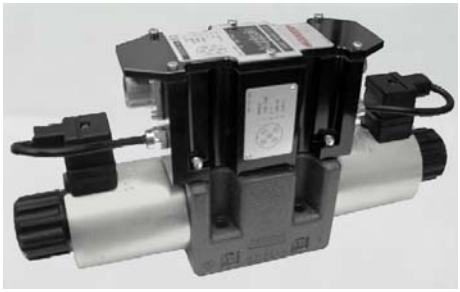
HYDAC INTERNATIONAL

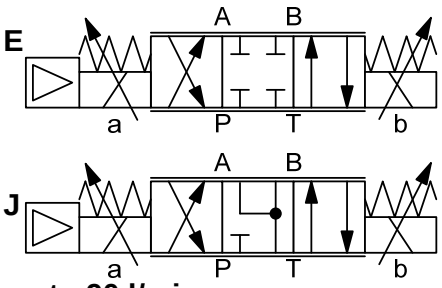


4/3-Proportional Solenoid Valve direct acting, with integrated Electronics

Subplate to ISO4401

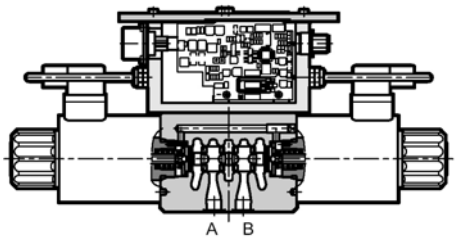
P4WEE 10

SYMBOL



up to 90 l/min
up to 320 bar

FUNCTION



The P4WEE10 is a direct acting solenoid valve which combines the directional control with the velocity control of the consumer.
The controlled nominal flow is proportional to the electrical input signal at the coil.
Analogue to his size the coil creates a force and moves the piston against the spring. Herewith the corresponding cross section diameters are opened which determines the flow rate in dependence of the pressure differential.

The integrated digital electronics permits a better performance of the valve and function by
- shortened response times
- reduced hysteresis
- better repeat accuracy
- integration CAN-Open as an option

FEATURES

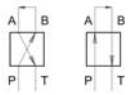
- High flow rate due to optimized casted housing
- Small hysteresis by super finish of moving parts
- Long life cycle times by armature switching under oil
- Minimal wear by hardened and ground valve piston
- Simple exchangeability by international standardized hole pattern to ISO 4401
- Integrated digital amplifier

SPECIFICATIONS

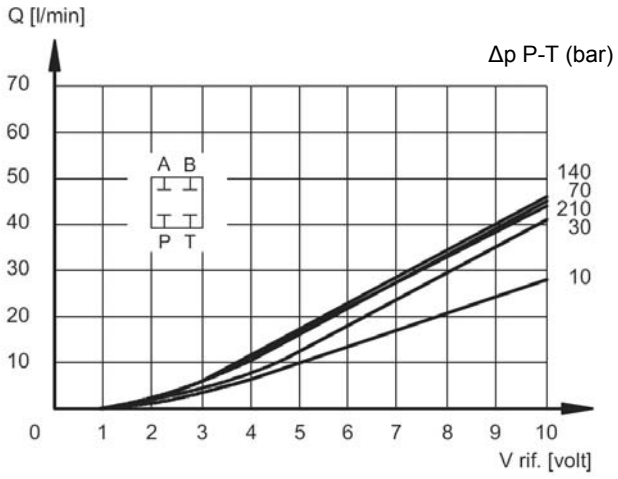
Operating pressure:	ports P,A,B max. 320 bar port T max. 140 bar
Nominal flow:	max. 90 l/min
Hysteresis:	(in % of Qmax): < 3,0 %
Repeat accuracy: (in % of Qmax)	< +/- 1,0 %
Switch-on time:	(0-100%) 50 ms
Switch-off time:	(100-0%) 60 ms
Media operating temp.range:	-20°C up to +80°C
Ambient temperature range:	-20°C up to +60°C
Hydraulic fluid:	Hydraulic fluid to DIN 51524 part 1 / 2
Viscosity range:	10 mm^2/s up to 400 mm^2/s
Filtration:	Class 18/16/13 up to 19/17/14 according to ISO4406
Coil duty rating:	100% (continuous)
Electromagnetic compatibility: (EMC)	Emissions to EN 50081-1 compatibility to EN 50082-2 to Norm 89/336 CEE
IP rating:	IP65
Installation:	no orientation restrictions
Hint:	Vent system and valve before setting in motion
Hole pattern:	ISO4401-05-04-0-05
Weight:	6,6 kg

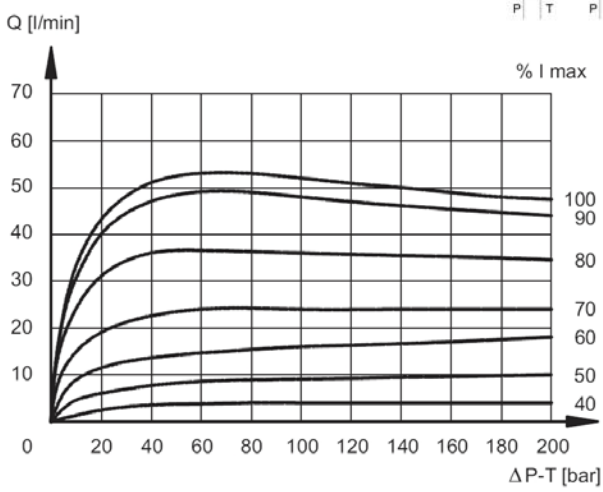
PERFORMANCE

measured at ν= 33 mm²/s and T_{oil} = 46° C (The related Δp is measured between lines P and T of the valve)

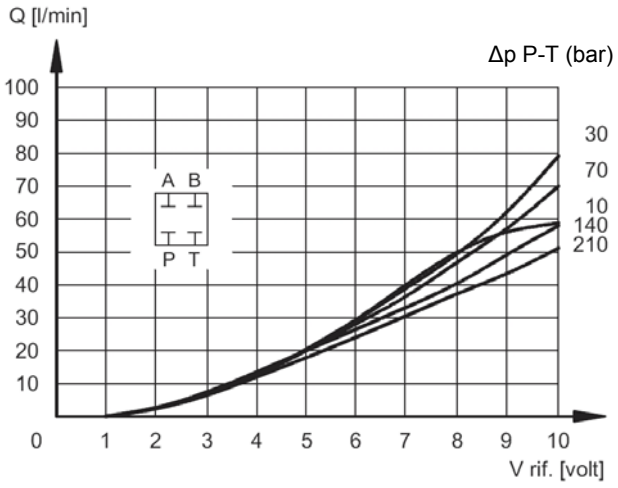


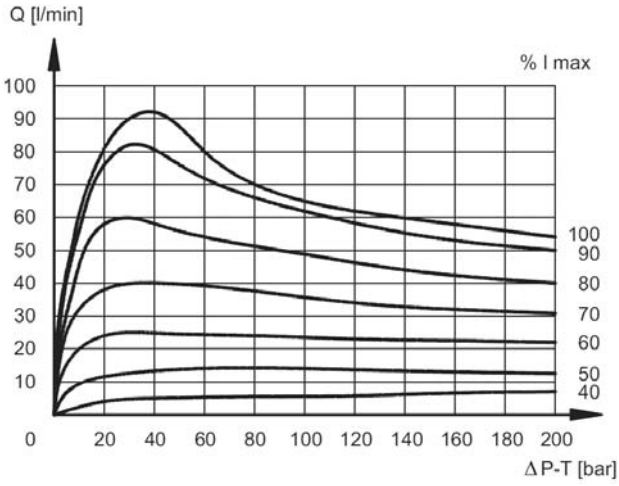
E30



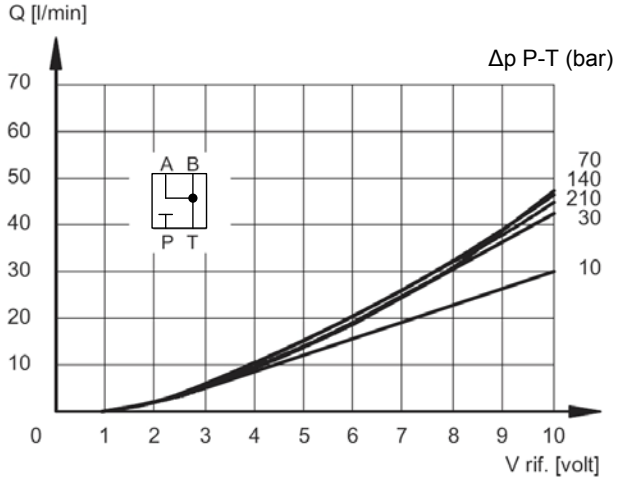


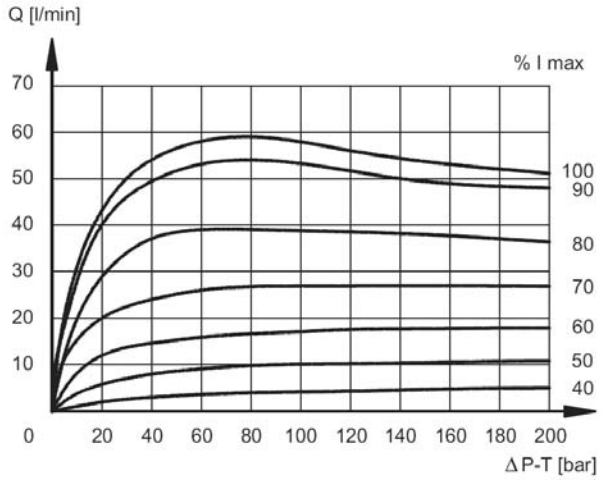
E60



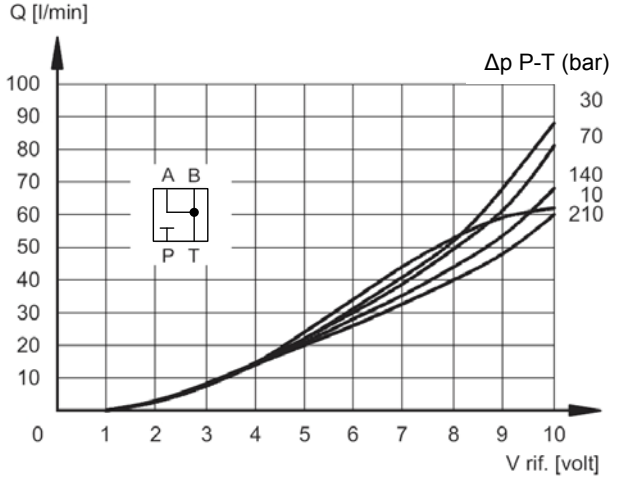


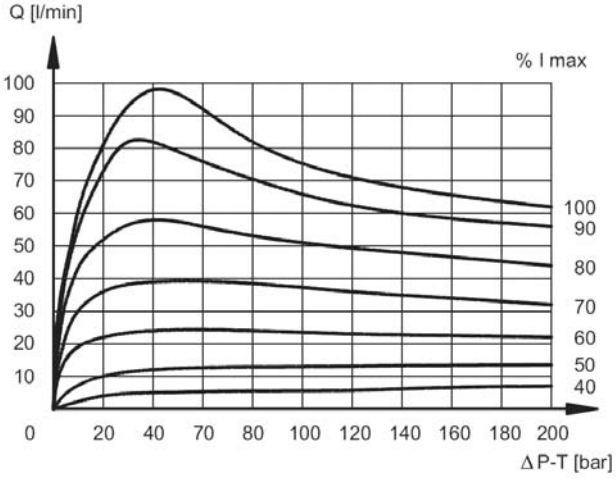
J30





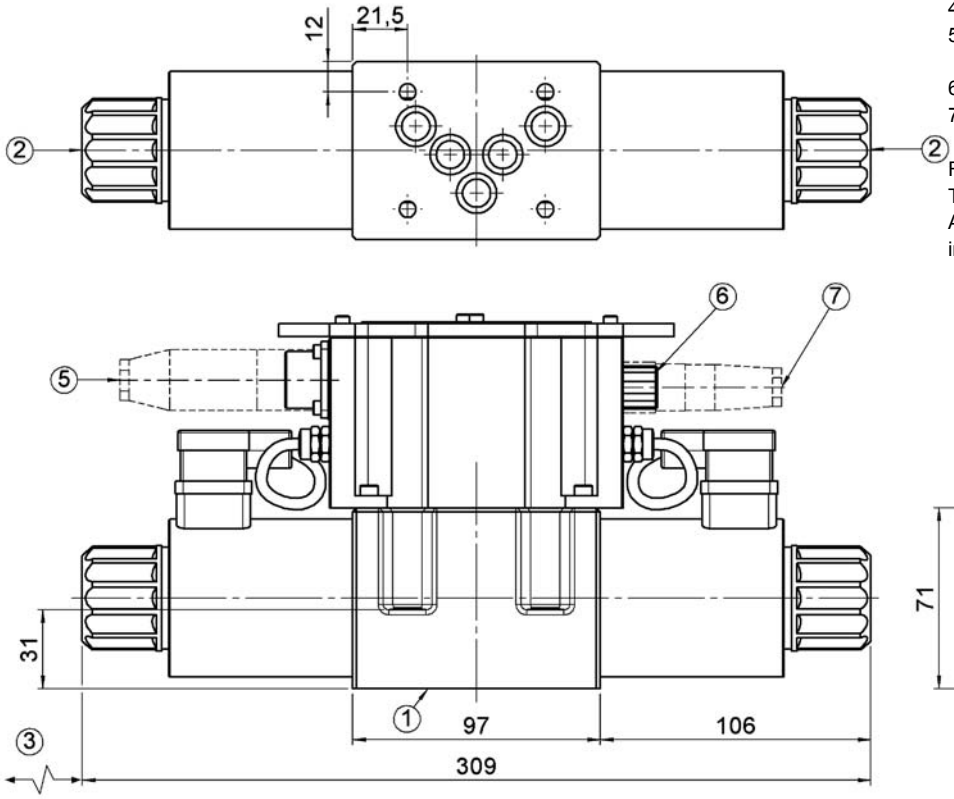
J60





DIMENSIONS

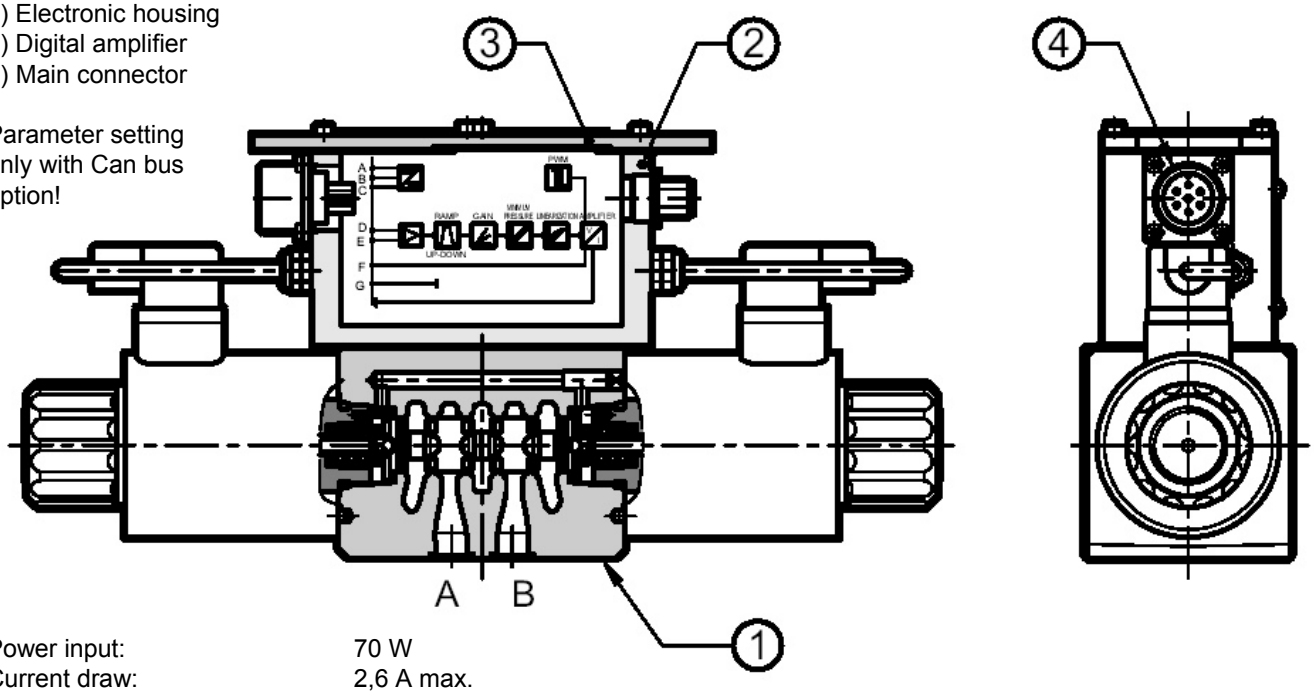
1) Mounting plate with O-rings 4p 12,42 x 1,78
2) Manual override
3) Free space for mounting the coil
4) Main plug
5) Plug 7 pin DIN 43563 – IP65 PG11 EX7/L/10
(not included in delivery Mat. 6080324)
6) CAN-Bus (option)
7) Plug 5 Pin M12 - IP65 PG7 EC5S/M12L/10
(only for CAN bus)
Fastening screws: 4x M6 x 40 10.9
Torque 8 Nm +0,5 Nm.
All dimensions in mm. Fastening elements are not in the scope of delivery.



Onboard Electronics

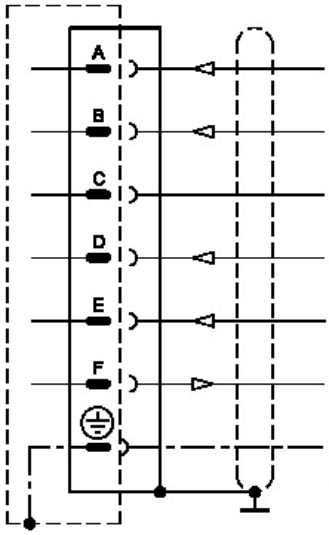
1) Valve with proportional coils
2) Electronic housing
3) Digital amplifier
4) Main connector

Parameter setting only with Can bus option!



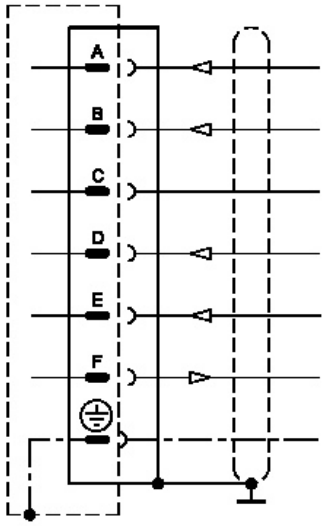
Power input:	70 W
Current draw:	2,6 A max.
Nominal voltage:	24 VDC (19-35VDC, ripple max.3Vpp)
Coil duty rating:	100% (continuous)
Input signal E0:	voltage signal +/-10VDC (Impedance Ri >50 kOhm)
Input signal E1:	current signal 4-20mA (Impedance Ri =500 Ohm)
Alert signals:	Overload and overheating of Electronics
Communication:	Field Bus Interface CAN-Bus ISO 11898
Electronics port:	7-pin MIL-C-5015-G (DIN43563)
CAN-Bus-port:	M12-IEC 60947-5-2 (Option on request)
EMC EN50081-1:	Corresponding 89/336 CEE Standard
EMC EN50082-2:	Corresponding 89/336 CEE Standard
IP rating:	IP65 (CEI EN 60529 Standard)

Input signal E0 voltage signal



Pin	Values	Function	NOTES
A	24 VDC	Voltage	from 19 to 35 VDC (ripple max 3 Vpp)
B	0 V	Power supply (zero)	0 V
C	----	Not used	----
D	± 10 V	Input rated command	Impedence R_i > 50 kΩ
E	0 V	Input rated command	----
F	± 10 V	Coil current	± 100% I_{MAX}
PE	GND	Protective ground	----

Input signal E1 current signal

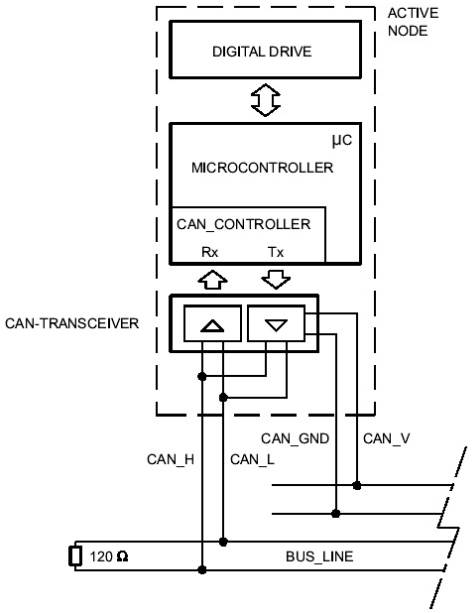


Pin	Values	Function	NOTES
A	24 VDC	Voltage	from 19 to 35 VDC (ripple max 3 Vpp)
B	0 V	Power supply (zero)	0 V
C	----	Not used	----
D	4 ÷ 20 mA	Input signal	Impedence R_i = 500 Ω
E	0 V	Zero reference	----
F	± 10 V	Coil current	± 100% I_{MAX}
PE	GND	Protective ground	----

CAN Bus Interface (Option /C)
will be needed to parameterize
the Onboard
Electronics

<u>CAN PC/USB Interface</u>
<u>- content</u>:
Parameterize-software
and PC connection cable
between CAN Bus and PC:

On request
(not in the standard scope of delivery
only in connection with OBE
and PC interface)



CAN connector connection scheme

Pin	Values	Function
1	CAN_SHLD	Monitor
2	CAN +24VDC	BUS + 24 VDC (max 30 mA)
3	CAN 0 DC	BUS 0 VDC
4	CAN_H	BUS line (high signal)
5	CAN_L	BUS line (low signal)

Standard models	Part No.
P4WEE 10 E30 D01-24PG E0/V	6078973
P4WEE 10 E60 D01-24PG E0/V	6078974
P4WEE 10 J30 D01-24PG E0/V	6078975
P4WEE 10 J60 D01-24PG E0/V	6078976
P4WEE 10 E30 D01-24PG E1/V	6078985
P4WEE 10 E60 D01-24PG E1/V	6078986
P4WEE 10 J30 D01-24PG E1/V	6078987
P4WEE 10 J60 D01-24PG E1/V	6078988

Other types on request

MODEL CODE

P4WEE10 E 30 D01- 24PG E0 /V /C

Name
Proportional solenoid valve, subplate with integr. Electronics

Nominal size
10

Symbol
E, J

Nominal flow
30 = 30 l/min
60 = 60 l/min (At Δp=10 bar P-T)

Type
D01 = Standard type with manual override

Nominal voltage
12= 12 V DC
24= 24 V DC

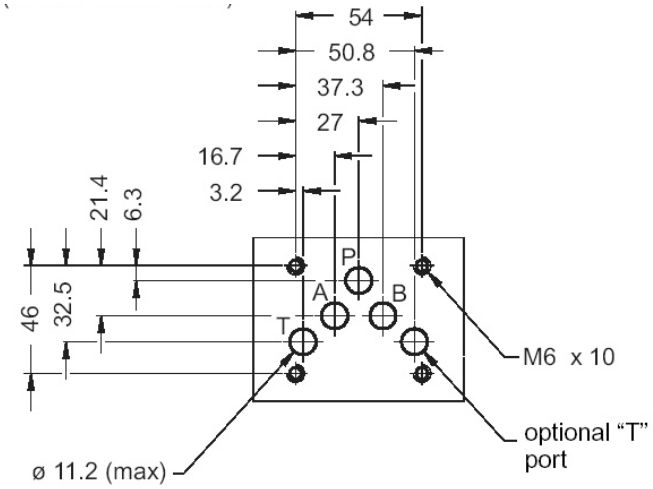
Coil connector
PG= DIN plug to EN175301-803 (for coil)

Input signal
E0= +/-10 V
E1= 4-20 mA

Seal material
V= FPM (Standard)
N= NBR (optional)

Option
C = CAN-Bus (on request)

Hole pattern to ISO4401 05-04-0-05



Annotation
The technical information in this brochure are relating to the operating conditions and applications.
At deviant applications and/or operating conditions please contact the technical dept.
Technical information are subject to technical modifications.

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