

Proportional pressure reducing valves of the series VMY allow the variable adjustment of the reduced pressure from 0 bar up to the nominal pressure.

The valve consists of a spool type main stage and a proportionally operated pilot stage. The desired pressure can be variably set corresponding to the command signal specified on the amplifier. The proportional solenoid converts the current of the amplifier into force on the valve poppet of the pilot stage.

Typical applications are pressure systems, test equipment, or counterweight systems. The optimum performance can be achieved in combination with the digital amplifier module PCD00A-400 for open loop systems or with PWDXXA-40* for closed loop systems.

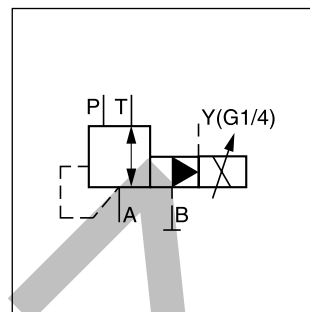
Function VMY*K06

With the proportional solenoids de-energized the main spring forces the main spool into the neutral position. Port A is connected to port T. Thus the reduced pressure only depends on the back pressure in the external drain pipe and/or the tank pressure and can accordingly be reduced down to 0 bar. The pressure present in the P line delivers the pilot oil to the pilot stage via a flow control valve.

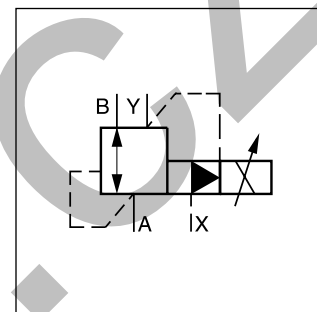
When the proportional solenoid is energized, the pilot pressure is increased in the pilot pressure area, and the main spool moves against the spring until the connection P - A opens. The regulation of the reduced pressure on connection A takes place by the constant comparison of the actual pressure and the reference pressure of the pilot stage.



VMY*K06



VMY*K06

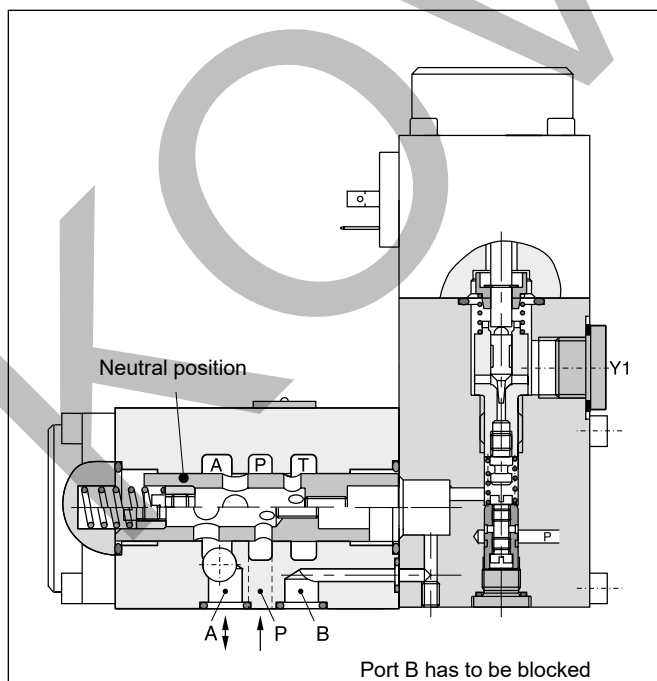


VMY*K10

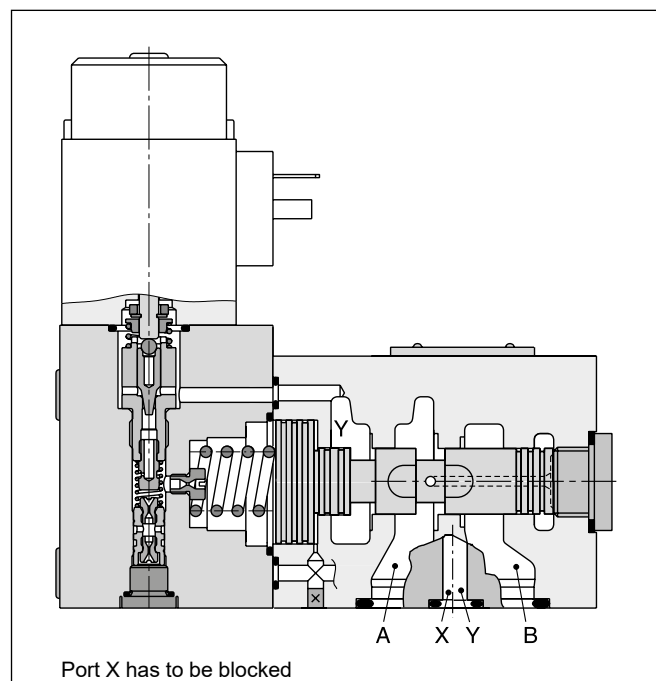
VMY*K10

The valve spool is designed so that the connection B-A is open in the neutral position and is closed in the working position.

VMY*K06N



VMY*K10



Ordering code

VMY		K				1	P	
Reducing valve	Pressure stages	Proportional solenoid 9 V / 2.5 A	Nominal size	Pilot	Seals	High pressure channel	Design series (not required for ordering)	

Code	Pressure stages
064	up to 64 bar
100	up to 100 bar
160	up to 160 bar
210	up to 210 bar
315	up to 315 bar

Code	Nominal size
06	NG06
10	NG10

Code	Seals
N²⁾	NBR
V	FPM

Pilot oil				
Code	Size	Pilot	Drain	p _{min} [bar]
omit	10	Internal	Internal	3 - 4
N¹⁾	06	Internal	External	0.5 - 1
T	06	Internal	Internal	1 - 2

Bold letters =
Short-term availability

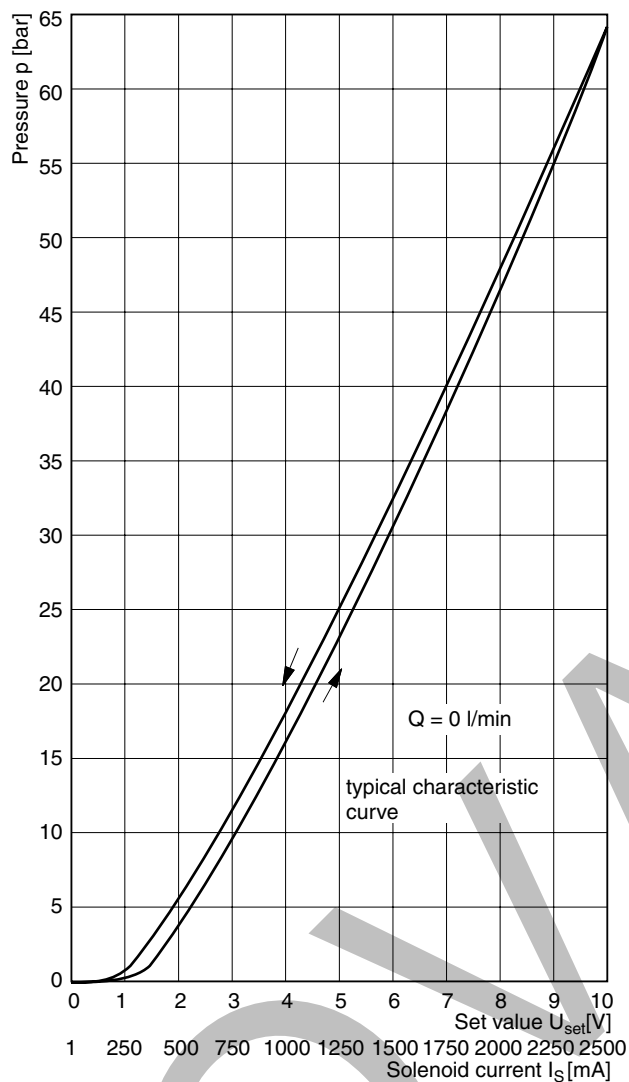
Technical data

General					
Design			3 way proportional reducing valve, pilot operated, spool design		
Nominal size			06 (DIN NG06/CETOP 03/NFPA D03)	10 (DIN NG10/CETOP 05/NFPA D05)	
Interface			Subplate mounting according to ISO 5781		
Actuation			Proportional solenoid		
Mounting position			unrestricted		
Ambient temperature			[°C]	-20 ... +60	
MTTF _D value			[years]	75	
Weight			[kg]	2.8	5
Hydraulics					
Max. operating pressure			[bar]	Size 06: Ports P, A 315; Port T, Y depressurized; port B has to be blocked	
			[bar]	Size 10: Ports A, B 350; Port Y depressurized; port X has to be blocked	
Pressure stages			[bar]	64, 100, 160, 210, 315	
Nominal flow			[l/min]	40	160
Fluid			Hydraulic oil according to DIN 51524		
Viscosity	permitted recommended	[cSt] /	[mm²/s]	20 ... 400	
		[cSt] /	[mm²/s]	30 ... 80	
Fluid temperature			[°C]	-20...+70 (NBR: -25...+70)	
Filtration			ISO 4406; 18/16/13		
Linearity			[%]	See characteristic pressure curves	±3.5 at > 15 % p _{nom}
Repeatability			[%]	<±2	
Hysteresis			[%]	<3	
Response time			[ms]	<150	<200
Electrical					
Duty ratio			[%]	100 ED	
Protection class			IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)		
Nominal voltage			[VDC]	9	
Max. current			[A]	2.7	
Nom. current			[A]	2.5	
Ambient temperature			[°C]	-20...+70	
Coil resistance			[Ohm]	-2.1 (at 20 °C)	
Solenoid connection			Connector as per EN 175301-803		
Power amplifier, recommended			PCD00A-400		

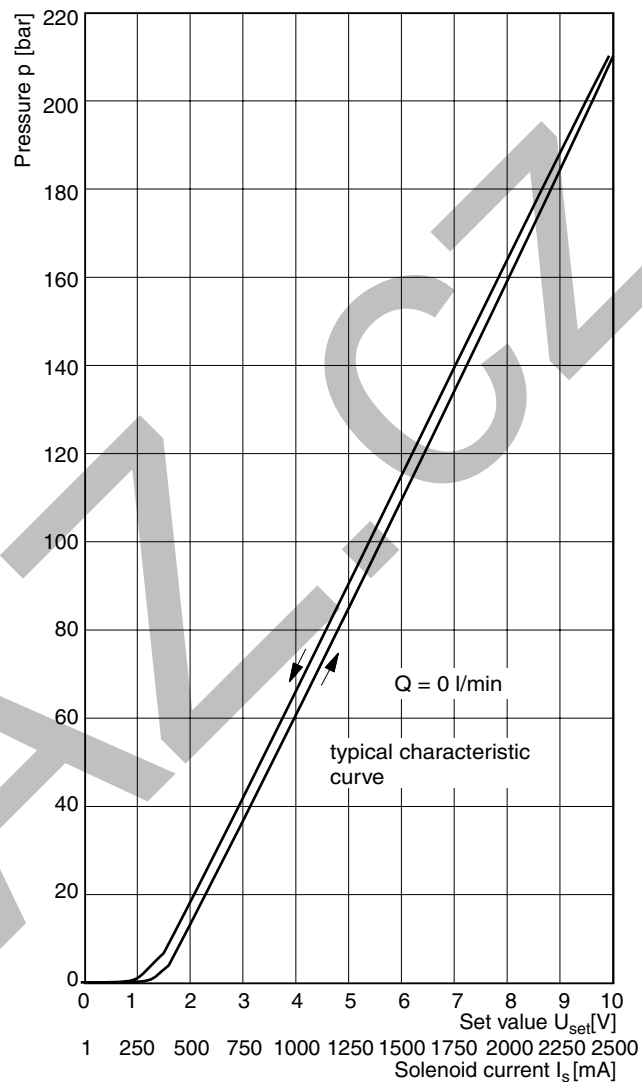
¹⁾ Connection on port Y1 or Y2.²⁾ Not for NG06.

NG06 Characteristic pressure lines $p = f(U_{set})$

Setting range max. 64 bar

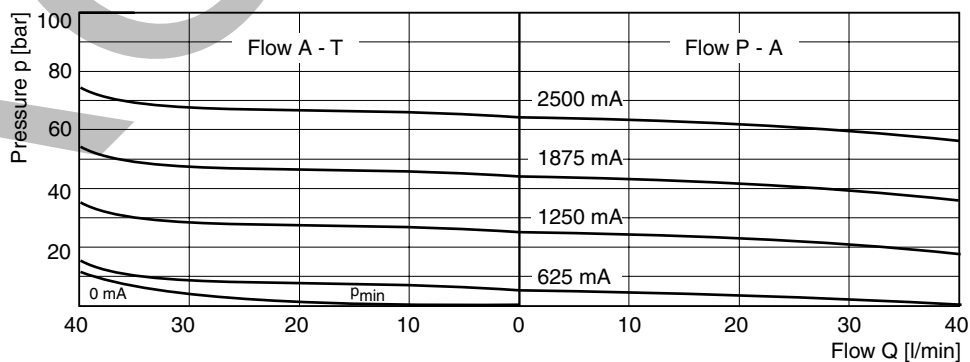


Setting range max. 210 bar



NG06 p/Q characteristics

Setting range max. 64 bar

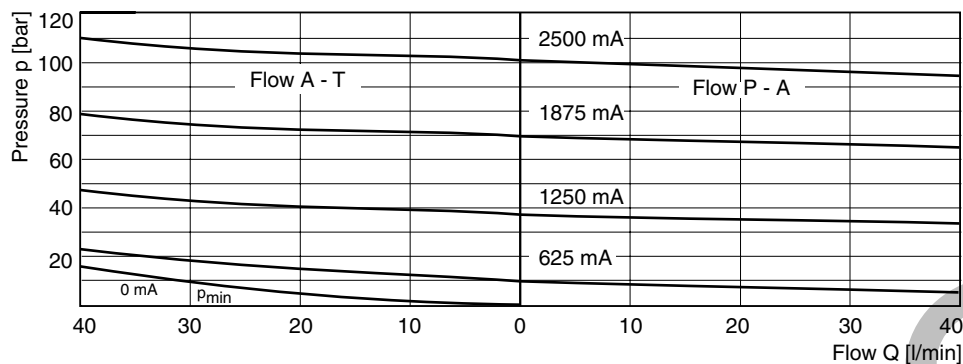


All characteristic curves measured with HLP46 at 50 °C.

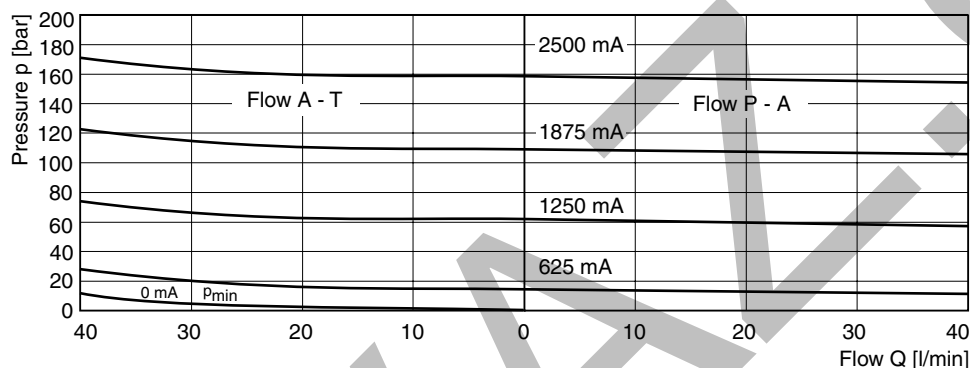
VMY UK.INDD 18.10.22

NG06 p/Q characteristics

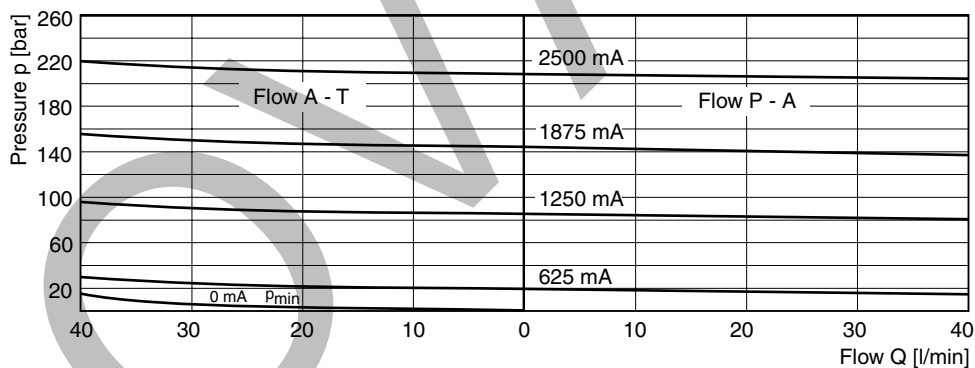
Setting range max. 100 bar



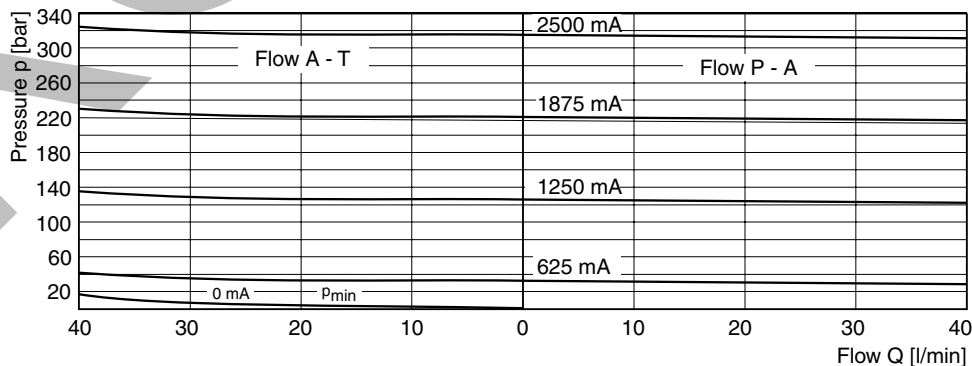
Setting range max. 160 bar



Setting range max. 210 bar



Setting range max. 315 bar

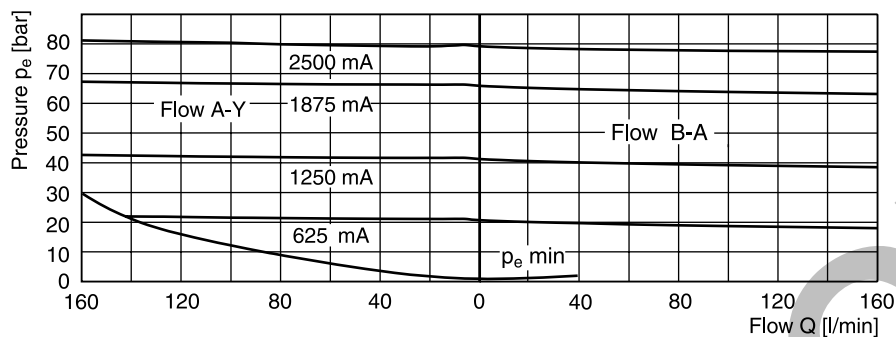


All characteristic curves measured with HLP46 at 50 °C.

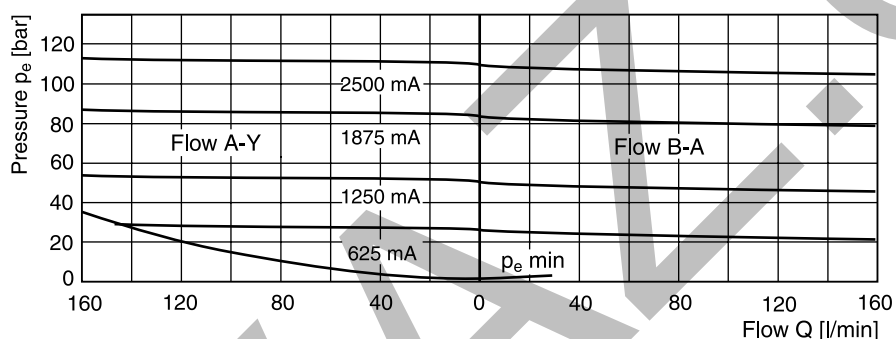
NG10 p/Q characteristics

for pilot oil supply from high pressure channel P

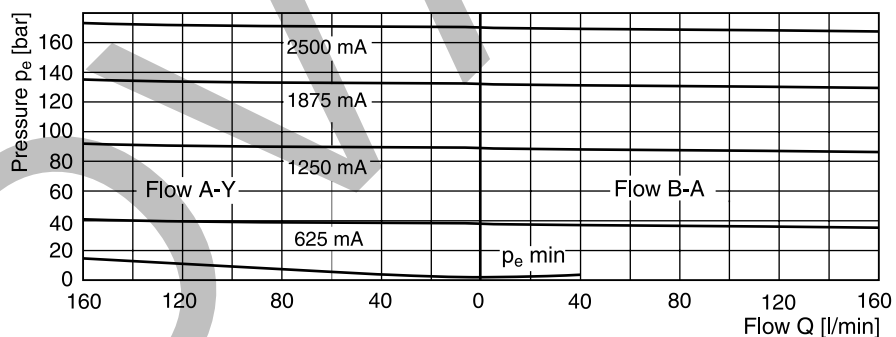
Setting range max. 64 bar



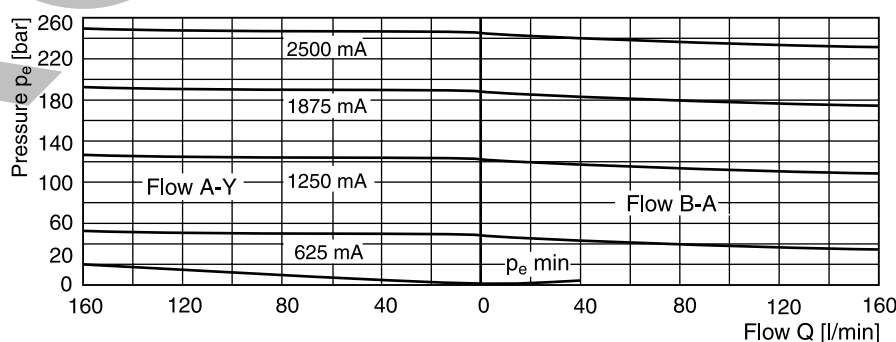
Setting range max. 100 bar



Setting range max. 160 bar

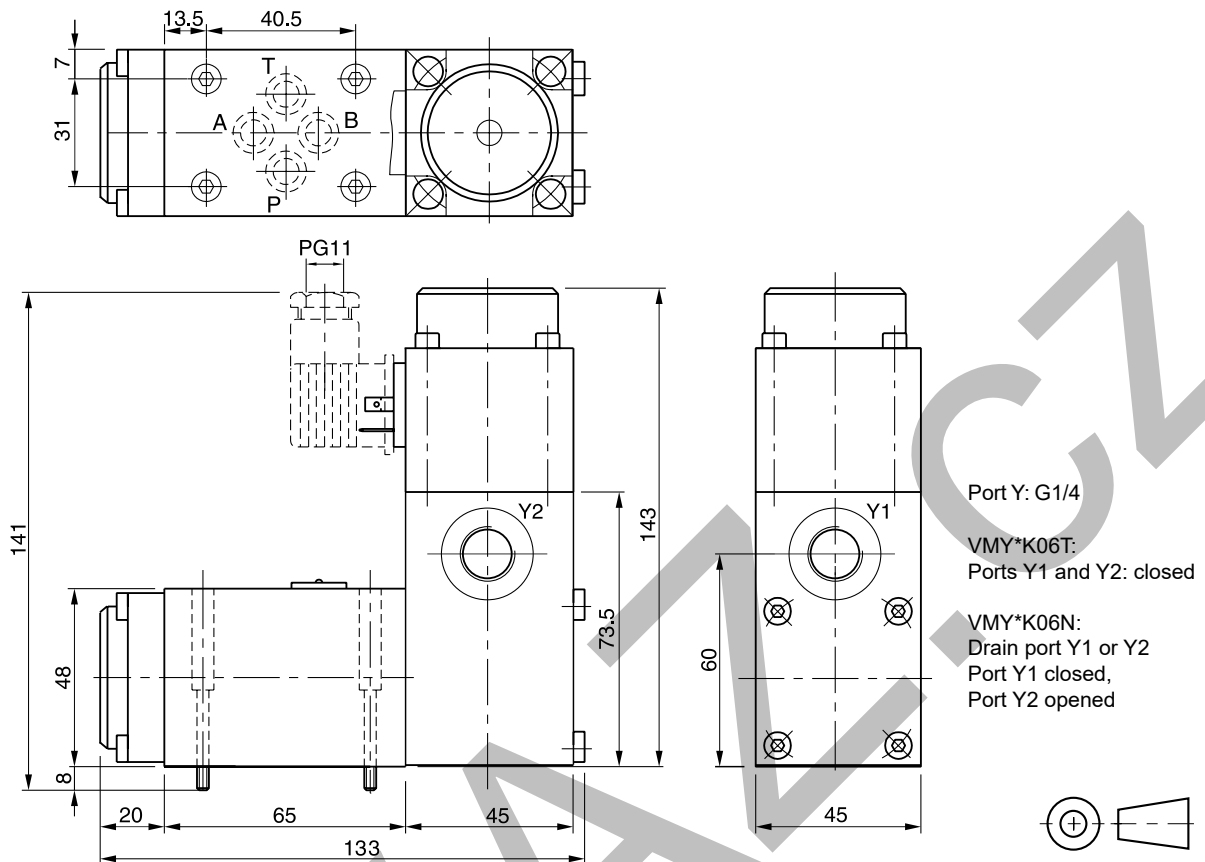


Setting range max. 210 bar



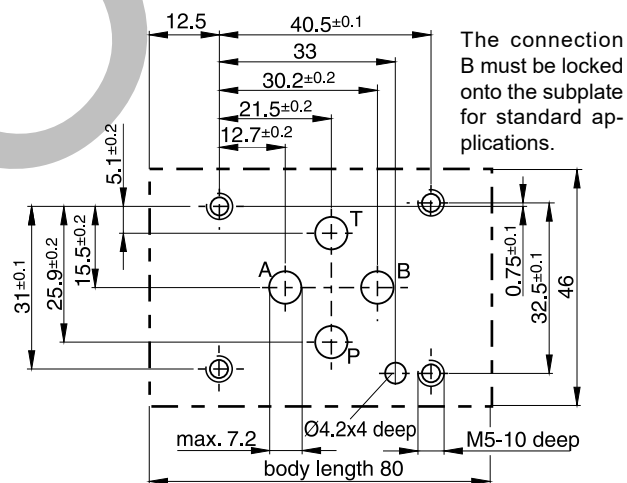
All characteristic curves measured with HLP46 at 50 °C.

NG06

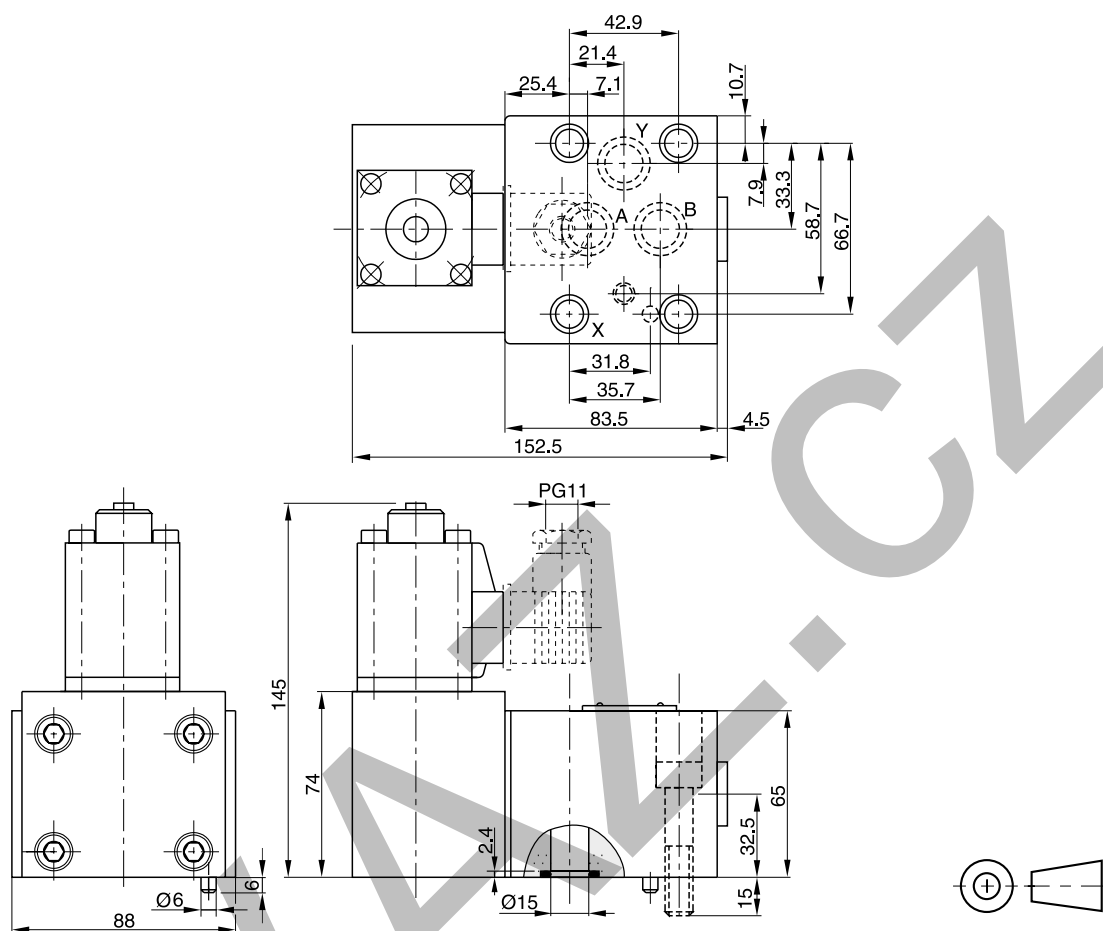





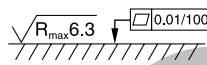
Surface finish	Bolt kit			Kit FPM
	BK375	4x M5x30 ISO 4762-12.9	7.6 Nm ±15 %	SK-VMY-L06-V

Mounting pattern ISO 5781-03-04-0-00

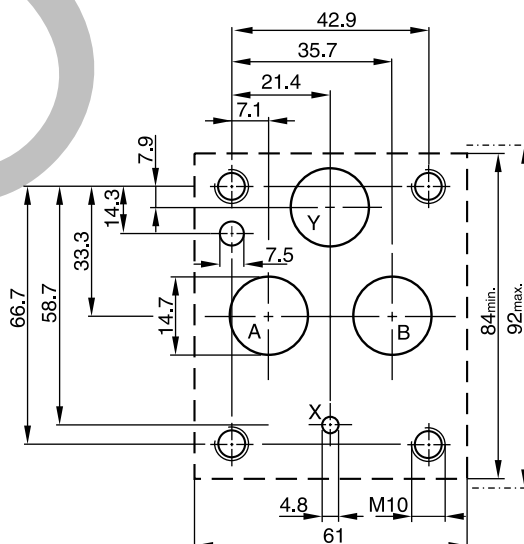


NG10



Surface finish	Bolt kit			 Kit FPM
 $R_{max} 6.3$ $0.01/100$	BK389	4x M10x50 ISO 4762-12.9	63 Nm ±15 %	SK-VB/VM-A10V

Mounting pattern ISO 5781-06-07-0-00 ¹⁾



¹⁾ Deviating from ISO the Y port has Ø 14.7 instead of Ø 4.8.