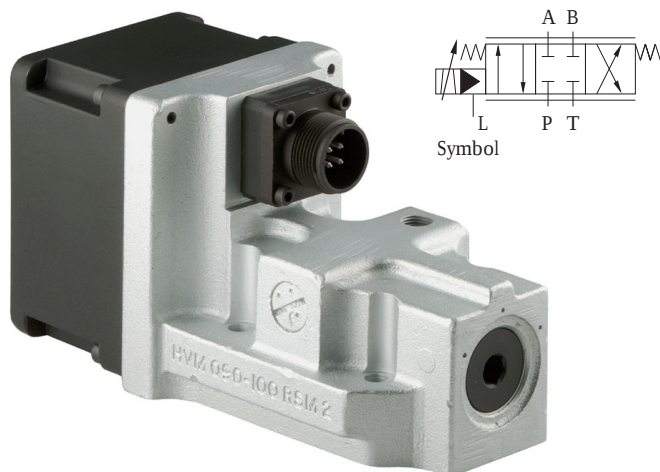


Elektrohydraulic Servovalves

Typ HVM 090



Special features:

- high reliability
- easy service
- robust construction
- high dynamic response
- relatively insensitive to contamination
- variable metering orifices only
- $Q_{max} = 70 \text{ l/min}$ at $\Delta p = 70 \text{ bar}$
- $p_{max.} = 315 \text{ bar}$

General description:

Type	:	electrical input stage, torque motor, sliding spool system
Control	:	torque motor actuated pilot spool
main spool	:	located in 4-way sliding and correlated to the same
Style of mounting	:	subplate / Cetop 05
Mounting position	:	unrestricted
Weight	:	2,8kg

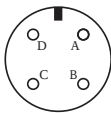
Technical Data

1. Hydraulic Data (definition according to DIN 24311)

.1	rated pressure	p_N	=	210	[bar]	
.2	operating pressure	$p_{b \text{ min}}$	=	10	[bar]	*in case of internal connection from L to T max.static pressure 10 bar continuously
		$p_{b \text{ max}}$	=	315	[bar]	
.2.1	return line pressure	$p_{r \text{ max}}$	=	35 % p_b *		
.2.2	in case of separate leakage line	$p_{L \text{ max}}$	=	10	[bar]	
.3	max. pressure (static test pressure)	p_{max}	=	450	[bar]	
.4	rated flow at $\Delta p = 70 \text{ bar}$	Q_N	=	10/20/40/60/70	[l/min]	
.5	quiescent flow, max. at p_N	Q_{02}	<	2% Q_N		
.6	internal max. leakage at $p_N = 210 \text{ bar}$	Q_L	<	50	[cm ³ /min]	
.7	hysteresis	H	<	5% i_N 3% i_N	(without Dither) (with Dither)	
.8	threshold sensitivity	E	<	0,5% i_N 0,2% i_N	(without Dither) (with Dither)	
.9	threshold span	S	<	2% i_N 1% i_N	(without Dither) (with Dither)	
.10	linearity deviation		<	10% i_N		
.11	flow symmetry - Q_N zu + Q_N		<	-10..+20% i_N		
.12	pressure gain (see diagram)	V_P	>	0,3 P_b / 1% i_N		
.13	overlap, standard	h	=	+3...+7% i_N		
.14	operating temperature range	δ_M	=	253...353	[K]	
.14.1	temperature drift		≤	2% i_N / 50K		
.15	viscosity range of fluid	γ_{min}	=	10...1000 mm ² /s approximate value normal: ISO VG 10...ISO VG 46		
.16	filtration of fluid		<	class 4-5 class 15/14/11	to NAS 1638 or to ISO 4406	
.17	fluid standard		=	HLP-hydraulic oils as per DIN 51524 Teil 2 (Special equipments possible)		

3.Electrical Data

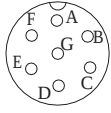
3.1 Electrical Data without Electronic



connector 4 pol.
DIN 43563

A or C +V D or B 0V flow from P to B					
coil type		inductance	rated current	resistance	power
1	1 coil	86 mH	± 325 mA	11,5 Ω	1,35 W
	2 coil parallel	31,2 mH	± 650 mA	6 Ω	2,7 W
2	1 coil	320 mH	± 150 mA	60 Ω	1,35 W
	2 coil parallel	157 mH	± 300 mA	30 Ω	2,7 W

3.2 Electrical Data with Electronic



connector 7 pol.
DIN 43563

24 V DC(18...28V) 400mA 0 V Spare Signal + Signal - Testoutput 5 V = 1A PE					
Input	E1	E2	E3	E4	Flow
Signal D>E	+ 10 V	4 mA	20 mA	+20 mA	P>A
	0 V	12 mA	12 mA	0 mA	0
	- 10 V	20 mA	4 mA	-20 mA	P>B

Order Information

HVM 090 - 060 - 1200 - XX - E1

<u>Model</u>	
090	
<u>Rated flow</u>	
QN at $\Delta p = 70$ bar	
010 l/min	
020 l/min	
040 l/min	
060 l/min	
070 l/min	
<u>Seal material</u>	
1 Perbunan	
2 Viton	
3 Butyl	
4 Vulkollan	
5 Ethylen-Propylen	
<u>Resistance / coil [R20]</u>	
1 11,5 Ω	
2 60 Ω	
<u>Overlap</u>	
0 Zero overlap	
1 Positiv overlap	
2 Negativ overlap	
<u>Amount of overlap</u>	
positive or negative	
1..9	
<u>Design letter</u>	
assigned by manufacturer	
<u>Elektronik</u>	
E1 Voltage input $\pm 10V$	
E2 Current input 4...20mA P > A	
E3 Current input 4...20mA P > B	
E4 Current input $\pm 20mA$	

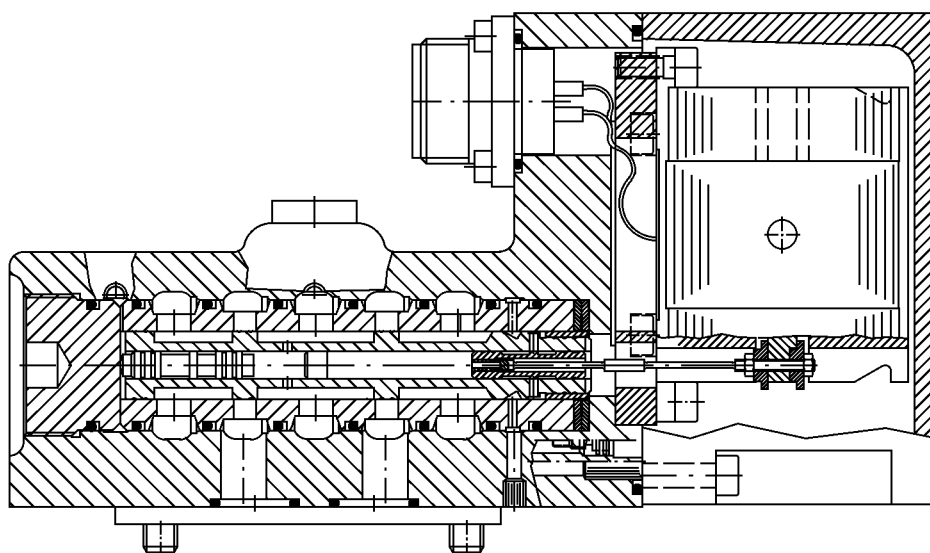
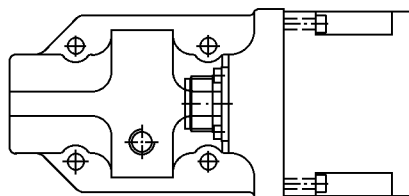
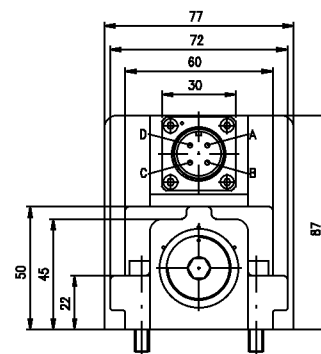
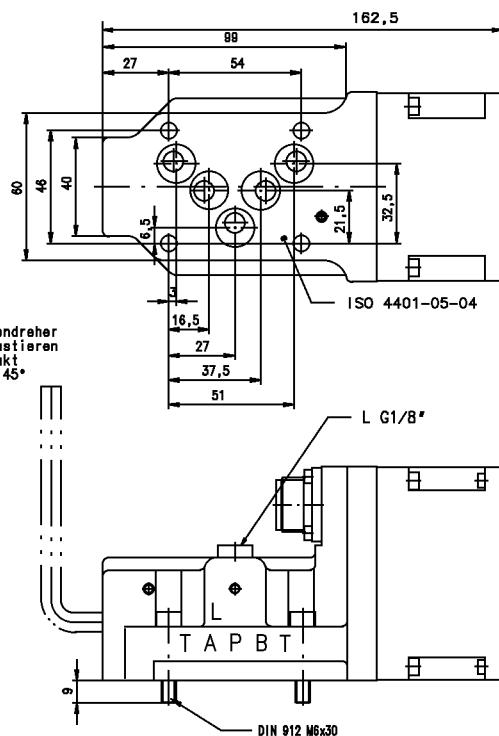
5. Accessories:

Description			Order No.
Connector	4pol.	CA 06 COM E 14 S2S	13018
Connector	7pol.	KE CA 06 COM 14S 7S	21855
Sub plate	NG 10	HZ 036	39671
scavenger plate	NG 10	HZ 061	39686
Box-Amplifier		BOE XXX-025-0-5-0A	46965

Important remarks:

Valve mounting surface must be flat within 0,02mm and smoothness not to exceed 6 μ m. Easy hydraulic Zero adjustment by means of Allen key S8 DIN 911. Max. permissible drain line pressure 10 bar. Valves with modified characteristics available. Modifications, which serve technical progress, remain reserving.

Sechskanterschraubendreher
DIN 911 s8 zum Justieren
des hydr. Nullpunkt
Justagebereich $\pm 45^\circ$



Angaben ohne Einheiten in mm
All dimensions without unit in mm

Nur zur Information / Only for information

Änderungsindex / Amendment index		
	Datum Date	Name Name
dwg.	17.09.01	Dindorf

Ventil
Valve
HVM 090-XXX-XXXX-XX

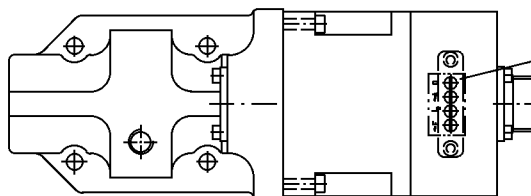
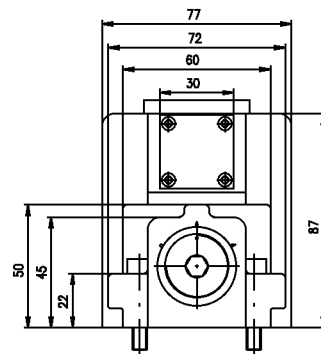
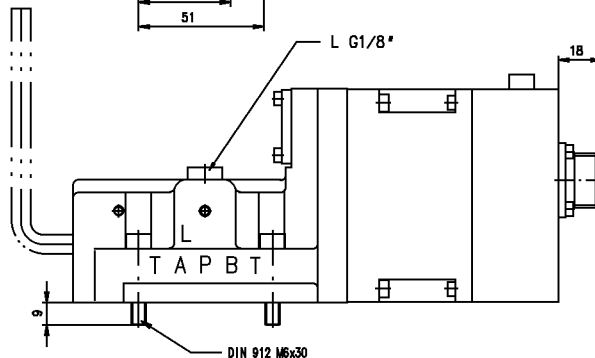
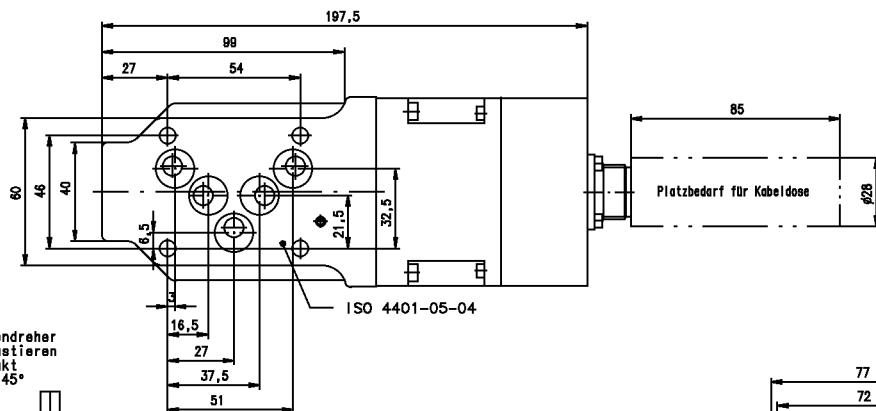
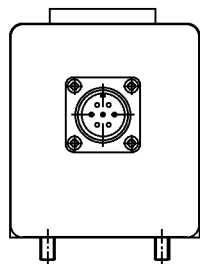
Id.- Nr.
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Jos. Schneider Optische Werke GmbH
Ringstr. 132 55543 Bad Kreuznach
Germany

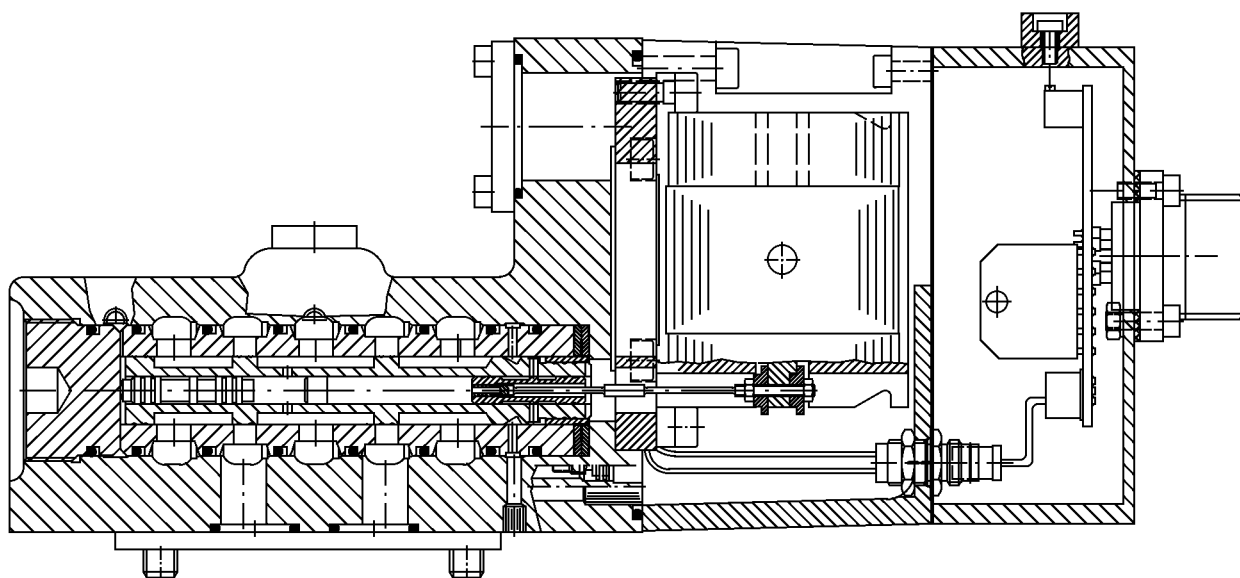
A	24 VDC ; 400 mA
B	0 V
C	Signal 0
D	± 10 V
E	0 V
F	Feedback
G	PE

Sechskanterschraubendreher
DIN 911 s8 zum Justieren
des hydr. Nullpunkt
Justagebereich ± 45°



Einstellpotis Ventilelektronik

~F: Ditherfrequenz
I: Nennstrom
A: Ditheramplitude
0: Nullpunkt



Angaben ohne Einheiten in mm
All dimensions without unit in mm

Nur zur Information / Only for information

Änderungsindex / Amendment index		
	Datum Date	Name Name
dwg.	17.09.01	Dindorf

Ventil
Valve

HVM 090-XXX-XXXX-XX-EX

Id.- Nr.

-



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