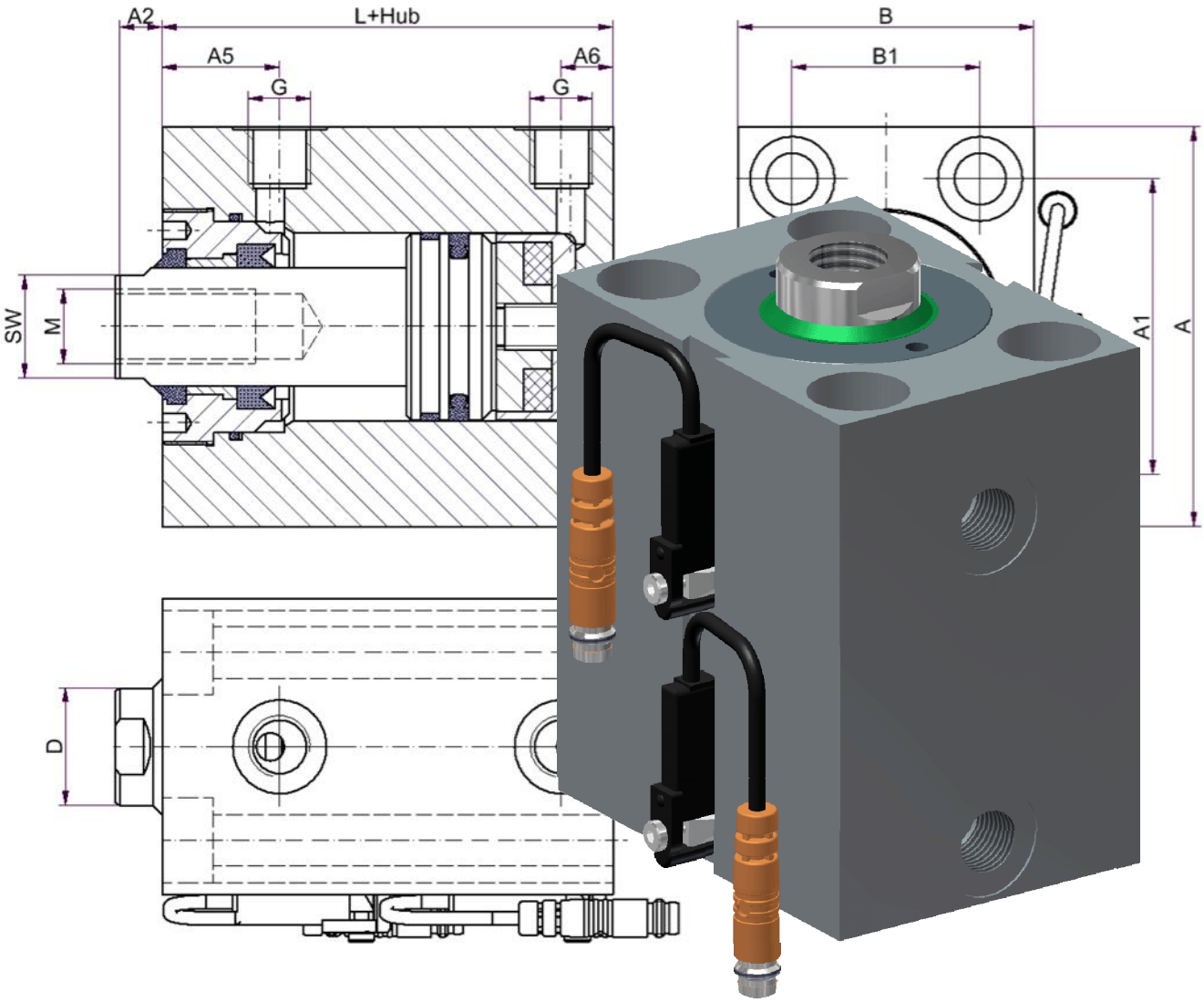
Hydraulic Block Cylinder

HBZ 350

With aluminum housing and adjustable magnetic field sensors

HYDRAULIK + PNEUMATIK GMBH



- **Maximum operating pressure up to 350 bar with smallest installation dimensions**
- **Available for use with water**
- **Choice of 12 different piston sizes and 21 different configurations**
- **Seal arrangement for easy service**
- **Seal groove and diameter according to ISO 5597/1 and DIN ISO 7425/1**
- **Contact free, wear free switching**
- **Switching points continuously adjustable**

MANAGEMENTSYSTEM

DQS-zertifiziert nach DIN EN ISO 9001

Reg.-Nr. 4744-01

HEISS Hydraulik + Pneumatik GmbH, **Kreuzmattenstr. 9, 79423 Heitersheim**
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Hydraulic-Block Cylinder HBZ 350

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Magnetic Field Sensors – General Information

Magnetic field sensors allow touch-free sensing of piston positions and are thus wear-free. This sensor technology replaces the common reed switches, which are not touch-free and thus subject to wear. Magnetic field sensors can be moved along the groove of the cylinder housing and can be locked at the sensing position using a set screw. The sensors are unsuceptible to vibrations, make bounce-free contact and are susceptible to magnetic fields only and not to metal flakes or other metal parts.

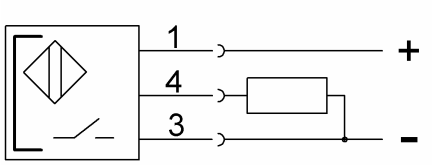
Function

A permanent magnet is installed on the bottom of the piston and can be detected by the magnetic field sensor through the non-magnetic cylinder wall. As the piston approaches the sensor the output signal changes into the other switching status.

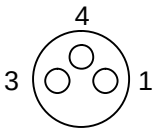
Specifications:

Output function	:	PNP
Operating voltage U_B	:	10...30 V DC
Voltage drop static max.U_d	:	≤ 3,1 V
Rated insulation voltage U_i	:	75 V DC
Effective operating current I_e	:	200 mA
No-load current I_o max.	:	≤ 30 mA
Short-circuit protected	:	yes
Protected against polarity reversal	:	yes
Protected against miswiring	:	yes
Rated switching field strength I H_n I	:	1,2 kA/m
Assured switching field strength I H_a I	:	≥ 2 kA/m
Hysteresis of I H_n I	:	≤ 45%
Temperatur drift of I H_n I	:	≤ 0,3%/°C
Turn-on/turn-off delay	:	≤ 0,05 m/s
Temperaturdrift des Einschaltpunktes	:	≤ 0,3%/°C
Ambient temperature range T_a	:	-25...+85°C
Enclosure type per IEC 60529	:	IP 67
Certification	:	CE, cULus
Housing material	:	LCP
Connection type	:	0,2 m cable PUR with straight M8-connector, 3-poles
Cable (included)	:	PUR – cable 5m(3 x 0,34 mm^2) with straight M8-connector, 3-poles

Wiring diagram:

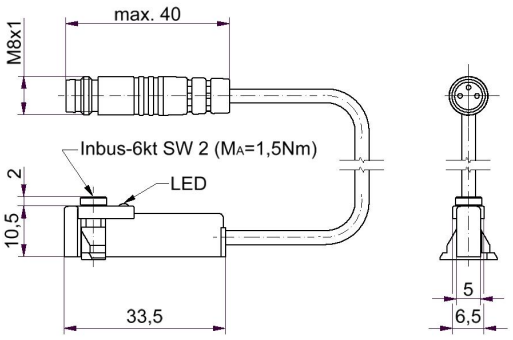


Connector view:



PIN 1 : brown
PIN 3 : blue
PIN 4 : black

Dimensions:



Minimum switching distance when installed in the same groove is about 15mm; when installed opposite no minimum switching distance has to be taken into account.

Two magnetic field sensor are standard equipment for the Block Cylinder. A cable of 0.2m with connector is molded to the magnetic field sensor. A 5m cable with receiving connector is also included. Should only one or more than two sensors or a longer cable be required, please, indicate this with the type designation.

If required the cylinders can be fitted with two parallel T-grooves on one side. Please indicate this under “X”.

Generic Data of HBZ 350

All dimensions of the HBZ 350 match the dimensions of the HBZ 500 series except the lenth “L” of the housing. These lengths are shown on the opposing page.

The maximum operating pressure is 350 bar. The remaining information such as operational conditions, piston force diagram, optional equipment and functional modes are listed in the brochure of the HBZ 500 series.

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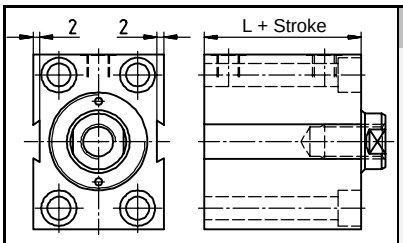
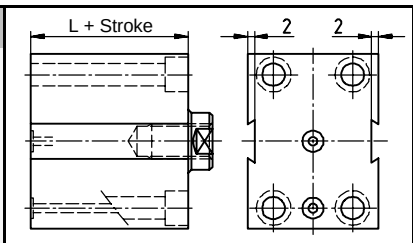
Hydraulic Block Cylinder HBZ 350

With aluminum housing and adjustable magnetic field sensors



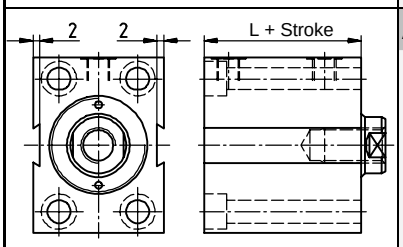
Attachment AD1

Axial attachment
Through holes countersunk for cylinder head bolts on rod side.
Ports: screw-in threads in inch



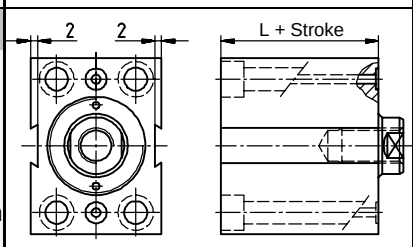
Attachment CD1

Axial attachment
Through holes countersunk for cylinder head bolts on rod side.
Ports: O-ring seals



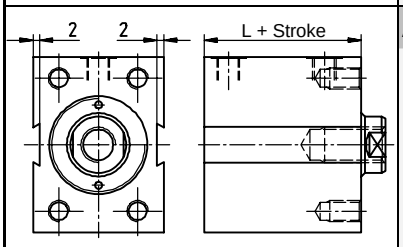
Attachment AD2

Axial attachment
Through holes countersunk for cylinder head bolts on bottom side.
Ports:screw-in threads in inch



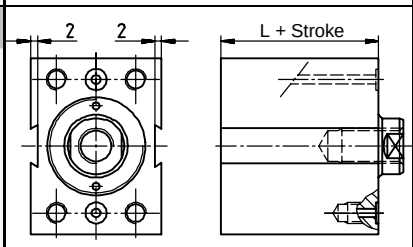
Attachment CD2

Axial attachment
Through holes countersunk for cylinder head bolts on bottom side.
Ports: O-ring seals



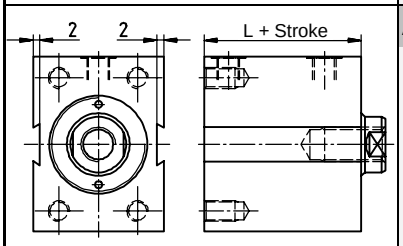
Attachment AG1

Axial attachment
Threaded blind holes on rod side.
Ports: screw-in threads in inch



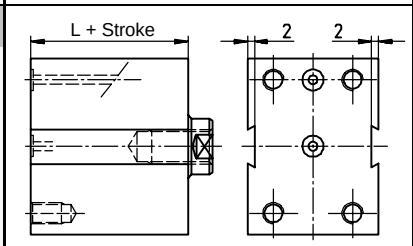
Attachment CG1

Axial attachment
Threaded blind holes on rod side.
Ports: O-ring seals



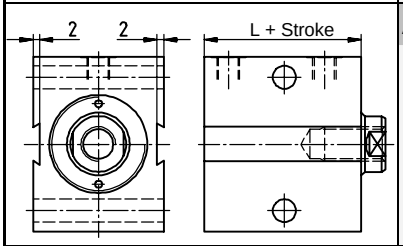
Attachment AG2

Axial attachment
Threaded blind holes on bottom side.
Ports: screw-in threads in inch



Attachment CG2

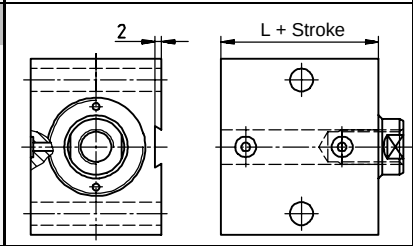
Axial attachment
Threaded blind holes on bottom side.
Ports: O-ring seals



Attachment BD1

Radial attachment
Through holes.

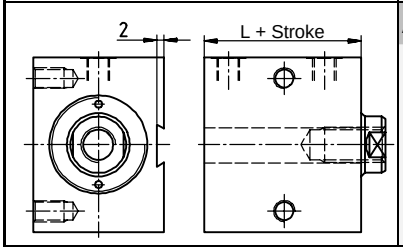
Ports: screw-in threads in inch



Attachment DD1

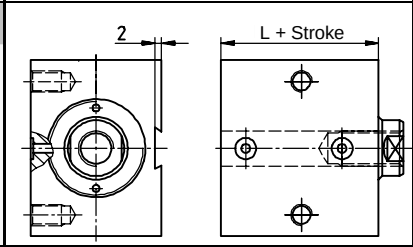
Radial attachment
Through holes.

Ports:
O-ring seals



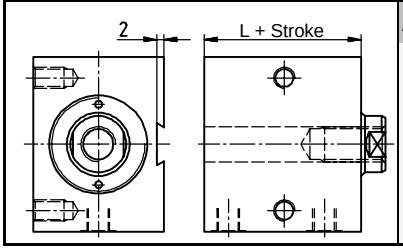
Attachment BG1

Radial attachment
Threaded blind holes on left hand side.
Ports: screw-in threads in inch



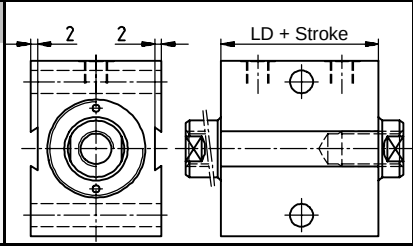
Attachment DG1

Radial attachment
Threaded blind holes
Anschlüsse:
O-ring seals



Attachment BG2

Radial attachment
Threaded blind hole on right hand side.
Ports: screw-in threads in inch



Attachment 120

Nondifferential cylinder
Can be combined with all configurations.
Ports: depending on Attachment

Piston-ø	16	20	25	32	40	50	63	80	100	125	160
Rod-ø	10	12	16	20	25	32	40	50	60	80	100
L	58	58	58	65	71	82	91	120	130	150	175
LD	72	66	67	78	85	103	108	138	142	167	190

Design subject to change

Revision B *18.03.13

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Hydraulic Block Cylinder HBZ 350

With aluminum housing and adjustable magnetic field sensors

Type designation:

Description: **HBZ 350 - 50 / 32 / 25 - AD1 . 003 . MS . X**

Hydraulic Block Cylinder	HBZ
Maximum operating pressure in „bar“	350
Piston diameter in „mm“	50
Piston rod diameter in „mm“	32
Cylinder stroke in „mm“	25
Attachment (see „General information of HBZ350“)	AD1
Functional mode (see „Overview Funtional Modes HBZ500“)	003
Position polling With 2 magnetig field sensors. Should a different quantity be required this quantity to be added here	MS
Special order index (see overview Special Purpose Solutions)	X

For ordering a nondifferential cylinder “-120” needs to be added behind the designation for “Attachment ”
For example: HBZ 350-50/32/25-AD1-120.003.MS

For ordering cylinder wear part kits please indicate the type designation and the commission number imprinted on the cylinder.

Please consider our additional product range:

Hydraulic rotational drive	**HDZ 120**	Hydraulic cube cylinder	**HWZ 400**
Swing clamp cylinder	**SSZ 250**	Hydraulic block cylinder	**HBZ 500**
Booster cylinder (up to 5000 bar)	**PHU / HHU**	Hydraulic short stroke cylinder	**HKZ 500**
Multiport swivel	**PDD / HDD**	Hydraulic compact cylinder	**HKZ 160**

Standard cylinder series **SZ 100, SZ 160, SZ 250, SNZ DIN 24554**

Optional with magnetic field sensors, inductive proximity switches, integrated displacment transducers and valve plate connection with choice from 23 different attachments

As well as cylinder strips, hydromechanical clamping units, special purpose cylinders with piston diameters up to 500 mm and strokes up to 8000 mm

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