GERMA
HYDRAULIKZYLINDER

BLOCK CYLINDER TYPE 650
SINGLE-ACTING

- **Piston diameter:** 25 mm – 80 mm
- **Stroke:** 8 mm – 32 mm
- **Seal variants:** NBR (80°C) and FKM (180°C)
- **Piston rod:** Internal or external thread
- **Accessories:** Thrust pieces
- **Possible custom series:** Special housing, Special stroke lengths, Special pistons

TYPE 650

Operating pressure: max. 500bar
Lateral forces on the piston rod must be avoided

Our **block cylinders** are designed to meet the requirements of a wide range of applications and perform their tasks in **mechanical engineering**, **fixture construction**, **mold** and **tool making**, as well as **plant engineering**. In **single-acting block cylinders**, the piston rod is extended hydraulically. The piston is returned to its original position in the depressurized state by spring force. The spring is sufficiently dimensioned for returning the piston; however, it cannot absorb any additional external forces. In addition, before delivery, the upper port of the cylinder is fitted with a vent screw for the spring chamber.

Type 650 – With longitudinal and cross holes

The **Type 650 block cylinder** features four longitudinal holes, countersunk on both sides, as well as two cross holes. This allows the cylinder to be mounted upright or horizontally in any desired orientation relative to the oil port.
If the cylinder is mounted using the cross holes, it must be supported against the direction of force by means of a stop bar when operating at higher pressures. The cylinder is mounted using socket head cap screws in accordance with DIN EN ISO 4762. The pressure medium is supplied via a pipe thread connection according to DIN ISO 228-1.

PERFORMANCE FEATURES TYPE 650

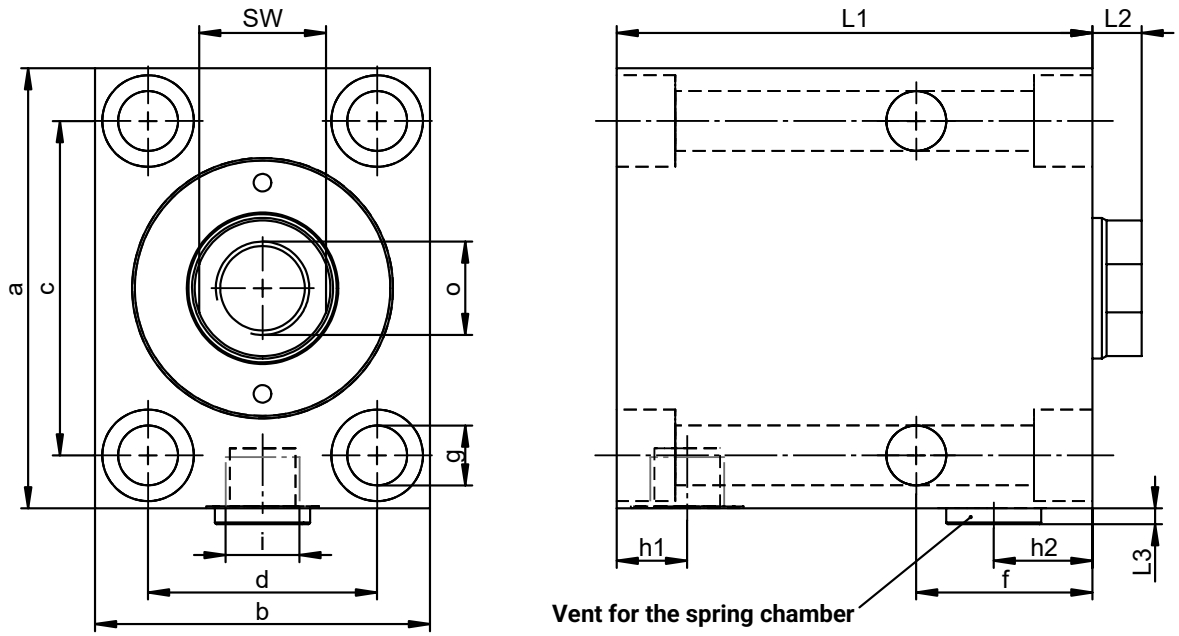
- **High force output**
- **Very compact and space-saving design**
- **Versatile mounting options**
- **Screwed connections secured against unintended loosening**
- **Application-specific sealing systems**
- **Modular design**
- **Roller-burnished cylinder bore**

GERMA GmbH
Raitestraße 1 • 71272 Renningen (Germany)
www.germa-gmbh.de • Tel.: +49 (0)7159/9325-0

GERMA
HYDRAULIKZYLINDER

DIMENSION TABLE
AND ORDER NUMBER

TYPE 650



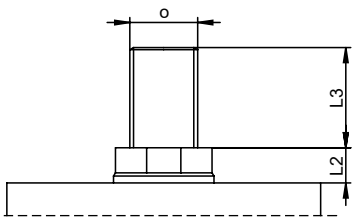
Basic designation		650-025	650-032	650-040	650-050	650-063	650-080
Piston Ø	(mm)	25	32	40	50	63	80
Rod Ø	(mm)	16	20	25	32	40	50
Compressive force per 100 bar	(kN)	4,9	8,0	12,6	19,6	31,2	50,3
a	(mm)	65	75	85	100	125	160
b	(mm)	45	55	63	75	95	120
c	(mm)	50	55	63	76	95	120
d	(mm)	30	35	40	45	65	80
f	(mm)	33	38	40	44	50	60
g	(mm)	8,5	10,5	10,5	13	17	21
o		M10x15	M12x15	M16x25	M20x30	M27x40	M30x40
SW	(mm)	13	17	22	27	36	46
i		G1/4	G1/4	G1/4	G1/4	G1/2	G1/2
h1	(mm)	12	12	12	12	17	20
h2	(mm)	20	23	25	27	28	36
L2	(mm)	7	10	10	10	14	14
L3	(mm)	4,8	4,8	4,8	4,8	4,8	4,8
Stroke stage 1	(mm)	**8**	**10**	**10**	**12**	**12**	**12**
Weight	(kg)	1,2	2,0	2,8	4,5	8,2	15,4
L1	(mm)	64	75	79	90	102	117
Order number		**650-025-008**	**650-032-010**	**650-040-010**	**650-050-012**	**650-063-012**	**650-080-012**
Stroke stage 2	(mm)	**20**	**20**	**20**	**20**	**25**	**32**
Weight	(kg)	2,0	2,8	3,6	6,1	10,3	20,3
L1	(mm)	94	100	104	115	135	165
Order number		**650-025-020**	**650-032-020**	**650-040-020**	**650-050-020**	**650-063-025**	**650-080-032**

GERMA GmbH
Raitestraße 1 • 71272 Renningen (Germany)
www.germa-gmbh.de • Tel.: +49 (0)7159/9325-0

GERMA
HYDRAULIKZYLINDER

FURTHER VERSIONS
EXTERNAL THREAD • FKM SEALS

TYPE 650



Piston Ø	o	L2	L3
25	M10	7	15
32	M12	10	15
40	M16	10	25
50	M20	10	30
63	M27	14	40
80	M30	14	40

External thread on the piston rod

All block cylinders are alternatively available with an **external thread** on the piston rod.
For this version, the suffix „**-A**“* must be added to the order number.

Example: 650-050-012-A

FKM seals

All block cylinders can optionally be equipped with **FKM seals**. These increase the permissible operating temperature from 80°C to 180°C. For this version, the suffix „**-V**“* must be added to the order number.

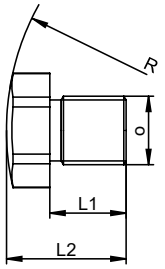
Example: 650-050-012-V

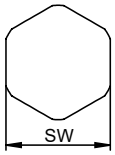
* Suffixes can be combined

GERMA GmbH
Raitestraße 1 • 71272 Renningen (Germany)
www.germa-gmbh.de • Tel.: +49 (0)7159/9325-0

ACCESSORIES
THRUST PIECES

TYPE 650

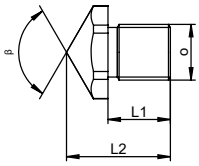


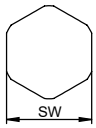


Order No.:	o	L1	L2	R	SW
DR-10	M10	12	22	35	17
DR-12	M12	14	24	45	19
DR-16	M16	20	30	60	24
DR-20	M20	25	35	60	30
DR-27	M27	30	47	100	41
DR-30	M30	35	54	100	46

Thrust pieces with radius

Radius thrust pieces are available for GERMA block cylinders. They can be screwed into the internal thread of the piston rod.





Order No.:	o	L1	L2	β	SW
DS-10	M10	12	27	90	17
DS-12	M12	14	29	120	19
DS-16	M16	20	35	120	24
DS-20	M20	25	40	120	30
DS-27	M27	30	50	120	41
DS-30	M30	35	60	120	46

Pointed thrust pieces

Pointed thrust pieces are available for GERMA block cylinders. They can be screwed into the internal thread of the piston rod.

GERMA GmbH
Raitestraße 1 • 71272 Renningen (Germany)
www.germa-gmbh.de • Tel.: +49 (0)7159/9325-0