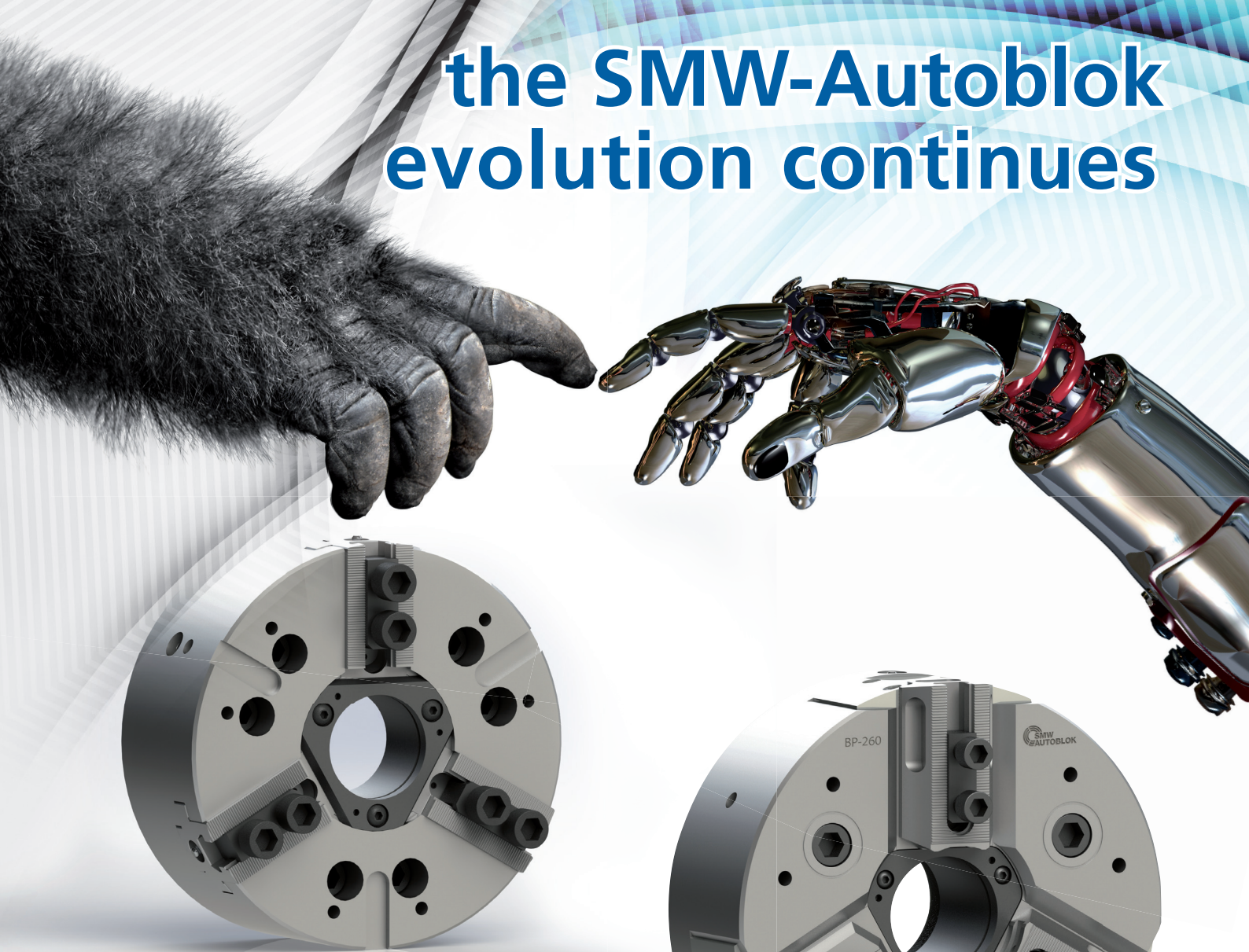


the SMW-Autoblok evolution continues



BP the new sealed power chuck with an open center

All the sealed chuck advantages are finally available in a standard open center chuck, bringing high-production technology to workholding systems in standard machines.

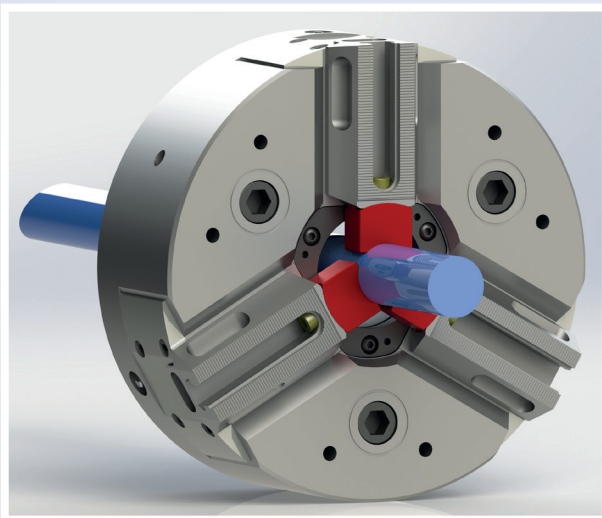
BP power chucks combine the flexibility of standard open center power chucks with the long life, low maintenance, safety, precision and process consistency typical of the sealed chucks included in the SMW-Autoblok proofline® series.

Available with Inch or Metric serrated master jaws or with Tongue and Groove. Currently available in the diameters 220, 260 and 320mm.

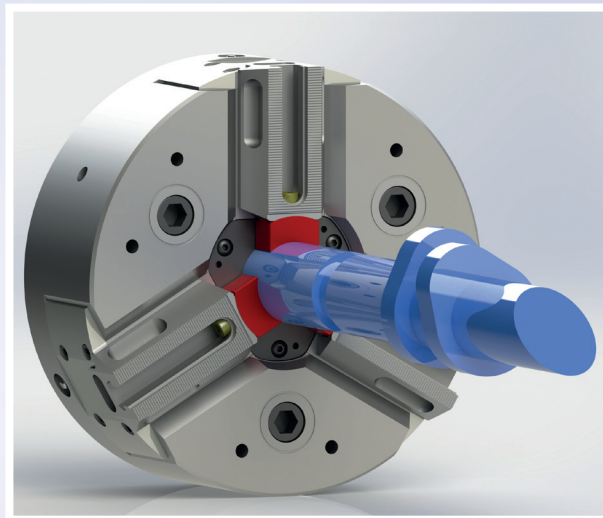
 **SMW®
AUTOBLOK**
always a step ahead

BP-D and BP-M

Hi flexibility: a chuck that is also a collet chuck thanks to the use of collet pads for small diameter parts and traditional top jaws for chucking operations

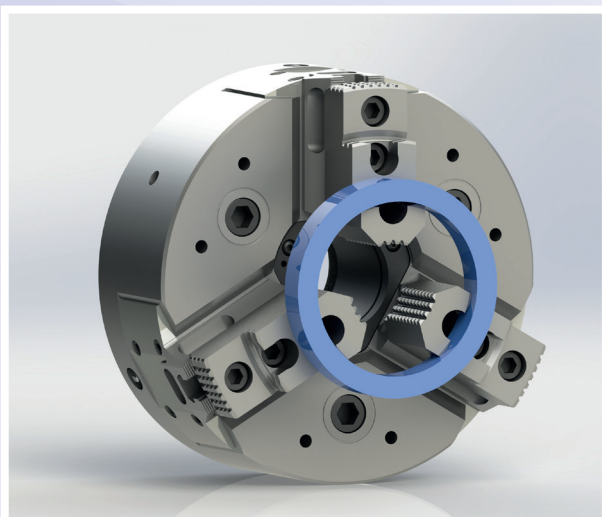


bar and bar stock clamping

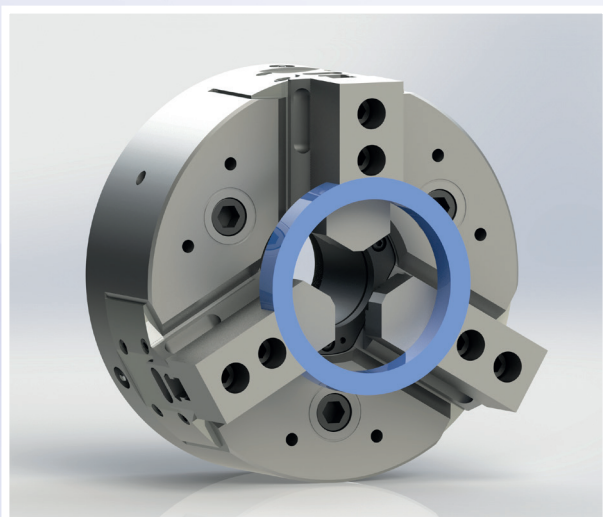


shaft clamping

Traditional clamping of large parts



internal clamping with hard top jaws in OP10



external clamping with soft top jaws in OP20

Proofline®: advantages of the fully sealed chucks

Long life: all power chucks need generous lubrication to maintain a long operating life at hi-accuracy. Fully sealed chucks with constant lubrication have a longer operating life: up to 5-10 times, also with not optimal lubrication.

Higher accuracy: constant lubrication means constant gripping force and constant deformation of the body and the internal parts of the chuck thus guaranteeing a higher repeatability and a higher constancy of the process (CPK).

Reduced down time: Lubrication and maintenance intervals are no more daily but monthly or yearly reducing the loss of productivity for maintenance almost to zero.

Higher safety: a non-sealed chuck, not cleaned and lubricated can lose up to 50% of the clamping force causing an important safety problem. Sealed chucks, with constant lubrication and protected from the penetration of coolant and chips, have a constant gripping force allowing a safer operation.

Process optimization: a constant gripping force allows a fine optimization of the production process thanks to the correct setting of the gripping force (to drive the component, but not to distort it) and the increase of the cutting parameters to increase productivity.

Lower wear: the constant lubrication and the optimization of the clamping force allow a reduction of the forces that the chuck must bear thus reducing the wear and increasing the operating life of the chuck.

Use in hostile environment: high pressure coolant, forging and casting scale powder, dry machining, abrasive powders, corrosive or grease diluting coolants, fine and abrasive chips... all situations extremely difficult for non-sealed chucks are not a problem for the fully sealed power chucks in the proofline ® series.

Eco-friendly: to use less grease and to avoid its dispersion in the coolant or in the machine chip conveyor, improves the ecology of the working environment beside reducing the maintenance costs and for the disposal of the used up coolants.

Proofline®, hi flexibility

Fully sealed power chuck with large through hole

BP

Sealing system

that makes the **BP** chuck
the only on the market with a large
through hole

Master jaws

with INCH (D)
or METRIC (M) serration

Large through hole

same as the BH series

Collet pads

mounting features

to clamp shaft or bars

Constant lubrication

and very low maintenance

Tongue Groove master jaws

for special, tall and/or
heavy top jaws

**Chuck body completely case
hardened** for highest resistance
and longer chuck life

BP-D

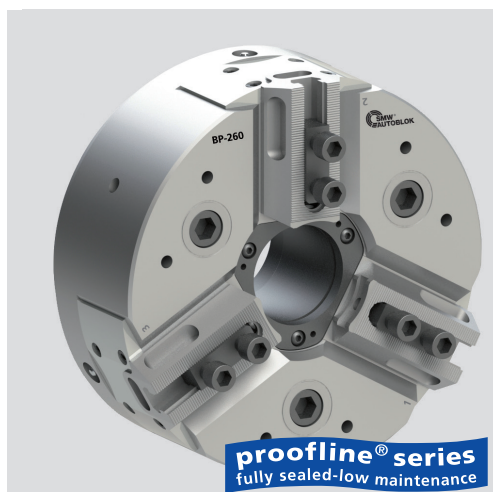
INCH serration

BP-M

METRIC serration

High precision power chucks Ø 220 - 320 mm

- LARGE THROUGH HOLE
- 3 jaws

**Application/customer benefits**

- General use on standard lathes due to the through hole, but with advantage of minimum maintenance and use also in extreme environments
- Longer life at high precision due to less wear
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

BP-D: Master jaws with INCH serration (1/16" x 90°)**BP-M:** Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese jaws)**Technical features**

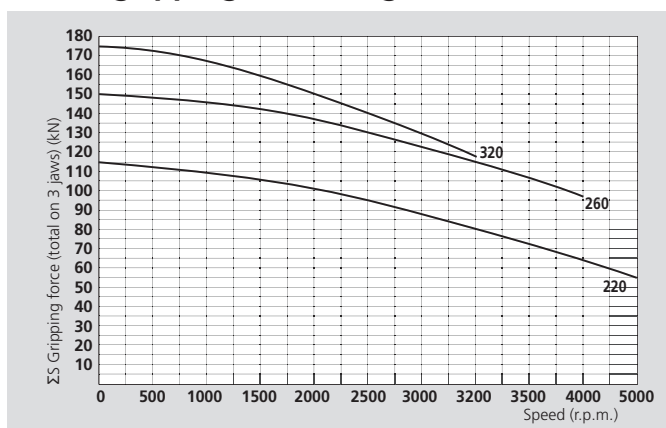
- Constant gripping force with permanent grease lubrication
- Large through hole compatible with the standard machines
- Chuck body and internal parts case hardened
- **Proofline®chucks**= fully sealed - low maintenance

Standard equipment

3 jaw chuck
 1 set T-nuts and bolts
 1 set soft top jaws
 Mounting bolts

Ordering example

3 jaw chuck BP-D 220/Z170
 or
 3 jaw chuck BP-M 220/A6

Actual gripping force diagrams

The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

△ Safety advice/danger of damage:

When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BP-D 220 BP-M 220	BP-D 260 BP-M 260	BP-D 320 BP-M 320
Number of jaws		3	3	3
Through-hole	mm	52	66	95
Radial jaw stroke	mm	4	5	5
Axial piston stroke	mm	16	19	19
Max. draw pull*	kN	44	60	68
Max. gripping force*	kN	110	150	175
Max. speed	r.p.m.	5000	4000	3200
Weight (without top jaws)	kg	23	36	60
Moment of inertia	kg·m ²	0.14	0.34	0.85
Recommended actuating cylinders		SIN-S 100/125 VNK 130-52	SIN-S 125/150 VNK 150-67	SIN-S 125/150 VNK 225-95

* For internal clamping reduce the draw pull by 30 %

High precision power chucks Ø 220 - 320 mm

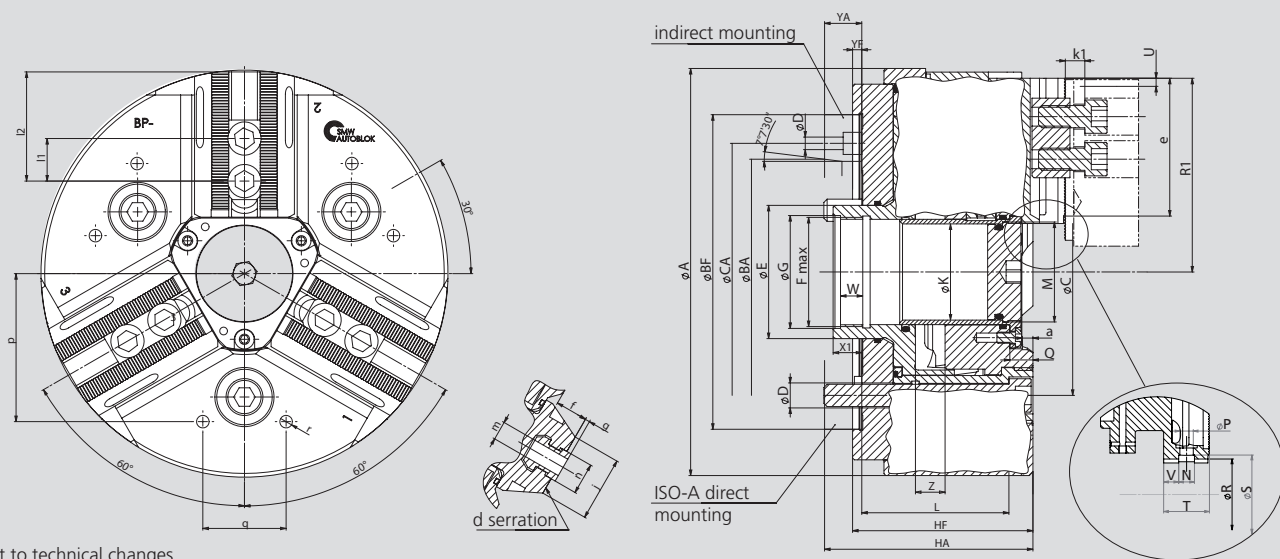
- LARGE THROUGH HOLE
- 3 jaws

BP-D

INCH serration

BP-M

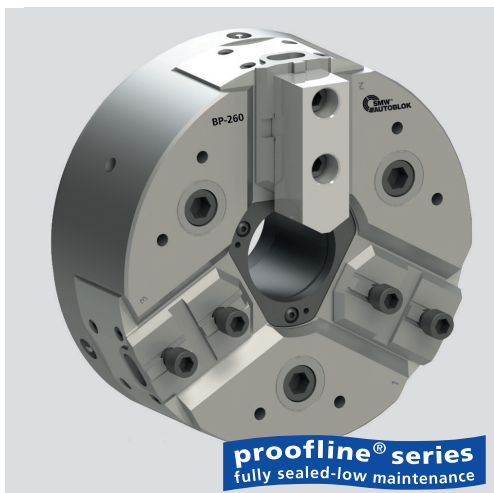
METRIC serration



Subject to technical changes
For more detailed information please ask for customer drawing

SMW-AUTOBLOK Type			BP-D/BP-M 220		BP-D/BP-M 260			BP-D/BP-M 320		
Mounting			Z170	A6	Z220	A6	A8	Z300	A8	A11
A		mm	220		262			320		
BF/BA	H6	mm	170	106.375	220	106.375	139.719	300	139.719	196.869
C		mm	133.4		171.4			235		
CA		mm	-	-	-	133.4	-	-	171.4	-
D		mm	13.5		17	13.5	17	21		
E		mm	72		88			115		
Fmax		mm	M60 x 1.5		M75 x 2			M102 x 2		
G		mm	61		76			102.5		
HF/HA		mm	97.5	109.5	114	149	128	114	149	130
K		mm	52		66			95		
L		mm	79.5		92			88		
M		mm	M54 x 1.5		M68 x 2			M98 x 2		
N	H8	mm	8		10			10		
Chuck open	P	mm	6.5		8.5			8.5		
Jaw stroke	Q	mm	12.5		16.5			16.5		
R	H7	mm	59		76			108		
R1		mm	109		131			159		
S		mm	63		81			113		
max./min.	T	mm	23.5		22			29		
U		mm	4.3		5			5		
BP-D Serration	V	mm	7.75		6			9.5		
BP-M Serration	W	mm	12		14			16.5		
X1		mm	15.5		22			21		
YF/YA		mm	5	17	5	40	19	5	40	21
Z		mm	16 / 0		19 / 0			19 / 0		
a		mm	5.7		9.7			9.7		
d			1/16" x 90°		1/16" x 90°			1/16" x 90°		
BP-D	d	mm	1.5x60°		1.5x60°			1.5x60°		
BP-M	e	mm	74.5		89			100.5		
max./min.	f	mm	17.5		12			19		
BP-D/ BP-M	g	mm	2.5		2.5			3.5		
BP-D	j	mm	34		35.22			35		
BP-M	k1	mm	10.5		12			12		
l1		mm	23/25		30			30		
l2		mm	55.5 / 33		67 / 43			78 / 43		
m		mm	M12		M12			M16		
n	h8	mm	17/14		17/16			21		
p		mm	80		102			100		
q		mm	45		60			60		
r		mm	M8		M10			M10		

- LARGE THROUGH HOLE
- 3 jaws



Application/customer benefits

- General use on standard lathes due to the through hole, but with advantage of minimum maintenance and use also in extreme environments
- Longer life at high precision due to less wear
- Fully sealed, ideal for dry machining of castings and forgings or if high pressure coolant is used

BP-C: Tongue & groove master jaws (American Standard)

Technical features

- Constant gripping force with permanent grease lubrication
- Large through hole compatible with the standard machines
- 3 jaw version available in all diameters
- **Proofline®chucks**= fully sealed - low maintenance

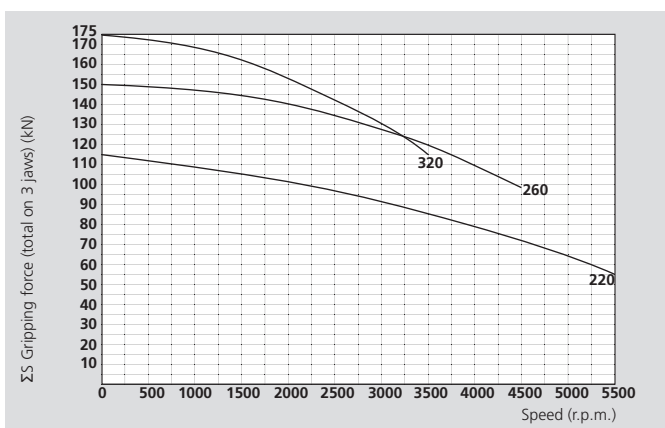
Standard equipment

3 jaw chuck
Mounting bolts

Ordering example

3 jaw chuck BP-C 220/Z170

Actual gripping force diagrams



The data in the diagram refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K67 grease. The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

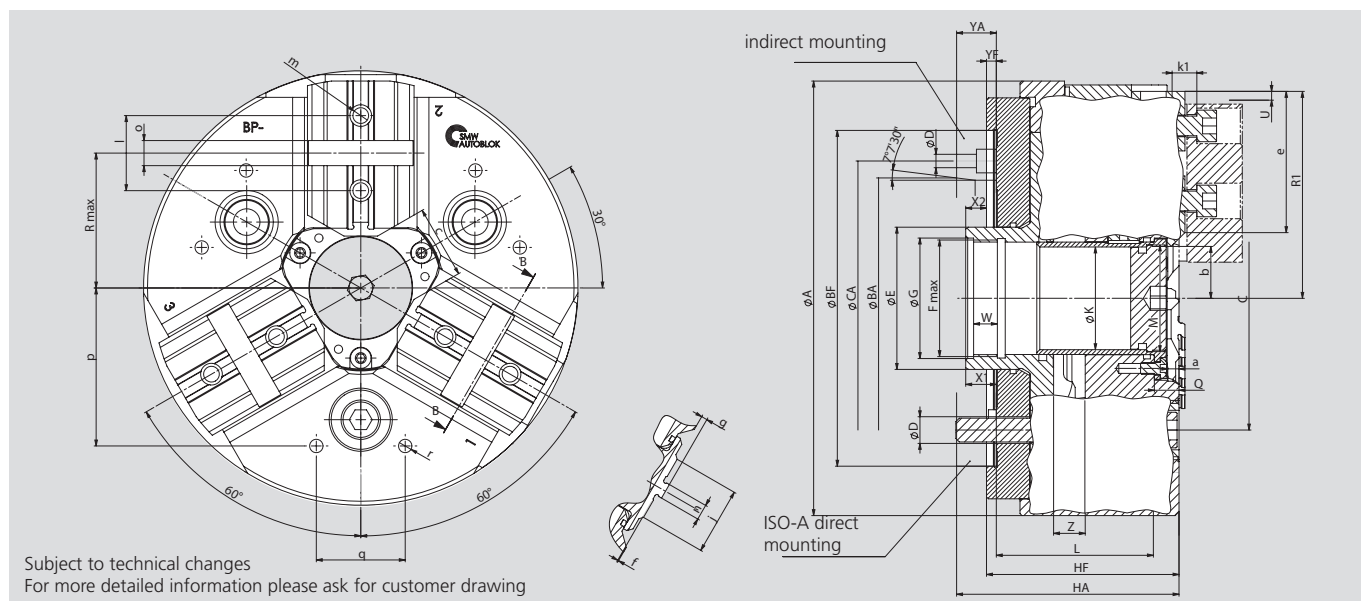
⚠ Safety advice/danger of damage:

When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		BP-C 220	BP-C 260	BP-C 320
Number of jaws		3	3	3
Through-hole	mm	52	66	95
Radial jaw stroke	mm	4	5	5
Axial piston stroke	mm	16	19	19
Max. draw pull*	kN	44	60	68
Max. gripping force*	kN	110	150	175
Max. speed	r.p.m.	5500	4500	3500
Weight (without top jaws)	kg	22	35	59
Moment of inertia	kg·m ²	0.14	0.34	0.85
Recommended actuating cylinders		SIN-S 100/125 VNK 130-52	SIN-S 125/150 VNK 150-67	SIN-S 125/150 VNK 225-95

* For internal clamping reduce the draw pull by 30 %



SMW-AUTOBLOK Type			BP-C 220		BP-C 260			BP-C 320		
Mounting			Z170	A6	Z220	A6	A8	Z300	A8	A11
	A	mm	220		262			320		
	Bf/BA H6	mm	170	106.375	220	106.375	139.719	300	139.719	196.869
	C	mm	133.4		171.4			235		
	CA	mm	-	-	-	133.4	-	-	171.4	-
	D	mm	13.5		17	13.5	17	21		
	E	mm	72		88			115		
	Fmax	mm	M60 x 1.5		M75 x 2			M102 x 2		
	G	mm	61		76			102.5		
	Hf/HA	mm	97.5	109.5	114	149	128	114	149	130
	K	mm	52		66			95		
	L	mm	79.5		92			88		
	M	mm	M54 x 1.5		M68 x 2			M98 x 2		
	Q	mm	12.5		16.5			16.5		
Chuck open	R1	mm	109		131			159		
Jaw stroke	R	mm	72.5		89			115		
	U	mm	4.3		5			5		
	W	mm	12		14			16.5		
	X1	mm	15.5		22			21		
max./min.	Yf/YA	mm	5	17	5	40	19	5	40	21
	Z	mm	16 / 0		19 / 0			19 / 0		
Serration	a	mm	5.7		9.7			9.7		
	b	mm	26.5		36			48		
	c	mm	37		52			70		
	e	mm	74.5		82			98		
	f	mm	0		3			4		
	g	mm	3		0			-1		
	j	mm	34		46			58		
max./min.	k1	mm	9		13.5			15.5		
	l	mm	38		44.4			54		
	m	mm	M10		M12			M16		
	n h7	mm	7.94		7.94			12.7		
	o H7	mm	12.68		12.68			19.03		
	p	mm	80		102			100		
	q	mm	45		60			60		
	r	mm	M8		M10			M10		

**SMW-AUTOBLOK Spannsysteme GmbH**

Postfach 1151 • D-88070 Meckenbeuren
 Wiesentalstraße 28 • D-88074 Meckenbeuren
 Telefon (0 75 42) 4 05-0
 Vertrieb Inland: Fax (0 75 42) 38 86
 E-mail ► vertrieb@smw-autoblok.de
 Sales International: Fax (0 75 42) 4 05-1 81
 E-mail ► sales@smw-autoblok.de

**AUTOBLOK s.p.a.**

I-10040 Caprie - Torino
 Tel. (011) 9638411 - 9632121
 Fax (011) 9632288
 E-mail ► info@smwautoblok.it
 Sito ► www.smwautoblok.it

**U.S.A.**

SMW-AUTOBLOK Corporation
 285 Egidi Drive - Wheeling, IL 60090
 Tel. +1 888 - 224 - 8254
 Tel. +1 847 - 215 - 0591
 Fax +1 847 - 215 - 0594
 E-mail ► autoblok@smwautoblok.com

**France**

SMW-AUTOBLOK
 17, Avenue des Frères Montgolfier
 Z.I. Mi. Plaine
 F-69680 Chassieu
 Tel. +33 (0) 4 - 727-918 18
 Fax +33 (0) 4 - 727-918 19
 E-mail ► autoblok@smwautoblok.fr

**Japan**

SMW-AUTOBLOK Japan Inc.
 1-5 Tamaike-Cho, Nishi-Ku
 461-Nagoya
 Tel. +81 (0) 52 - 504 - 0203
 Fax +81 (0) 52 - 504 - 0205
 E-mail ► japan@smwautoblok.co.jp

**Great Britain**

SMW-AUTOBLOK Workholding Ltd.
 8, The Metro Centre
 GB-Peterborough, PE2 7UH
 Tel. +44 (0) 1733 - 394 394
 Fax +44 (0) 1733 - 394 395
 E-mail ► sales@smwautoblok.co.uk

**China**

SMW AUTOBLOK (Shanghai) Work Holding Co., Ltd.
 Building 6 No.72 JinWen Road, KongGang
 Industrial Zone, ZhuQiao Town, Pudong District
 Shanghai 201323, P.R.China
 Tel. +86 21 - 5810 6396
 Fax +86 21 - 5810 6395
 E-mail ► china@smwautoblok.cn

**Spain**

SMW-AUTOBLOK IBERICA, S.L.
 Ursalto 10 - Nave 2 - Pol.27 Mateo Gaina
 Post Code 20014 San Sebastian
 Guipuzcoa - SPAIN
 Tel. +34 - 943 225 079
 Fax +34 - 943 225 074
 E-mail ► info@smwautoblok.es

**Mexico**

SMW-AUTOBLOK Mexico, S.A. de C.V.
 Pirineos No 515-B Nave 16
 Col. Industrial Benito Juárez
 Micro Parque Industrial Santiago
 Querétaro, Qro C.P. 76130
 Tel. +52 (442) 209-5118
 Fax +52 (442) 209-5121
 E-mail ► smwmex@smwautoblok.mex

**Russia**

SMW-AUTOBLOK Russia
 B.Tulskaya str.10, bld 3 Off.3203,
 115191 Moscow
 (Russia)
 Tel. +7 495 - 231-1011
 Fax +7 495 - 231-1011
 E-mail ► info@smw-autoblok.ru

**India**

SMW-AUTOBLOK Workholding Pvt.Ltd.
 Plot n.45 B.U. Bhandari Industrial Estate
 Tal. Shirur, Sanaswadi
 Dist. Pune - 412 208
 Tel. +91 2137-616974
 Fax +91 2137-616972
 E-mail ► info@smwautoblok.in

**Austria**

SMW-AUTOBLOK
 Salzburger Straße 257/T.33
 A-4030 Linz
 Tel. +43 (0) 732 - 371476
 Fax +43 (0) 732 - 371501
 Mob. +43 (0) 664 - 3081908
 E-mail ► smwautoblok@aon.at

**Argentina**

SMW-AUTOBLOK Argentina
 Rio Pilcomay 1121 - Bella Vista
 RA - 1661 Bella Vista Buenos Aires
 Tel. +54 (0) 01146 660603
 Fax +54 (0) 01146 660603
 E-mail ► autoblok@ciudad.com.ar

**Taiwan**

AUTOBLOK Company Ltd
 N.6 SHUYI RD, SOUTH DIST.
 TAICHUNG - TAIWAN
 Tel. +886 4-22610826
 Fax +886-4-22612109
 E-mail ► taiwan@smwautoblok.tw

**Brazil**

SYSTEC METALÚRGICA LTDA
 R. Luiz Brisque, 980
 13280-000 - Vinhedo - SP
 Tel. +55 (0) 193 886-6900
 Fax +55 (0) 193 886-6970
 E-mail ► systec@systecmetal.com.br

**Sweden / Norway**

SMW AUTOBLOK Scandinavia AB
 Kasernvägen 2
 SE - 281 35, HÄSLEHOLM
 Tel. +46 (0) 76 14 20 111
 E-mail ► t.rebert@smw-autoblok.se

**Repubblica Ceca**

SMW-AUTOBLOK s.r.o.
 Merhautova 20
 CZ-61300 Brno
 Tel. +42 (0) 513 034-157
 Fax +42 (0) 513 034-158
 Mob. +42 0 734 756 755
 E-mail ► info@smw-autoblok.cz

<http://www.smwautoblokgroup.com>



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