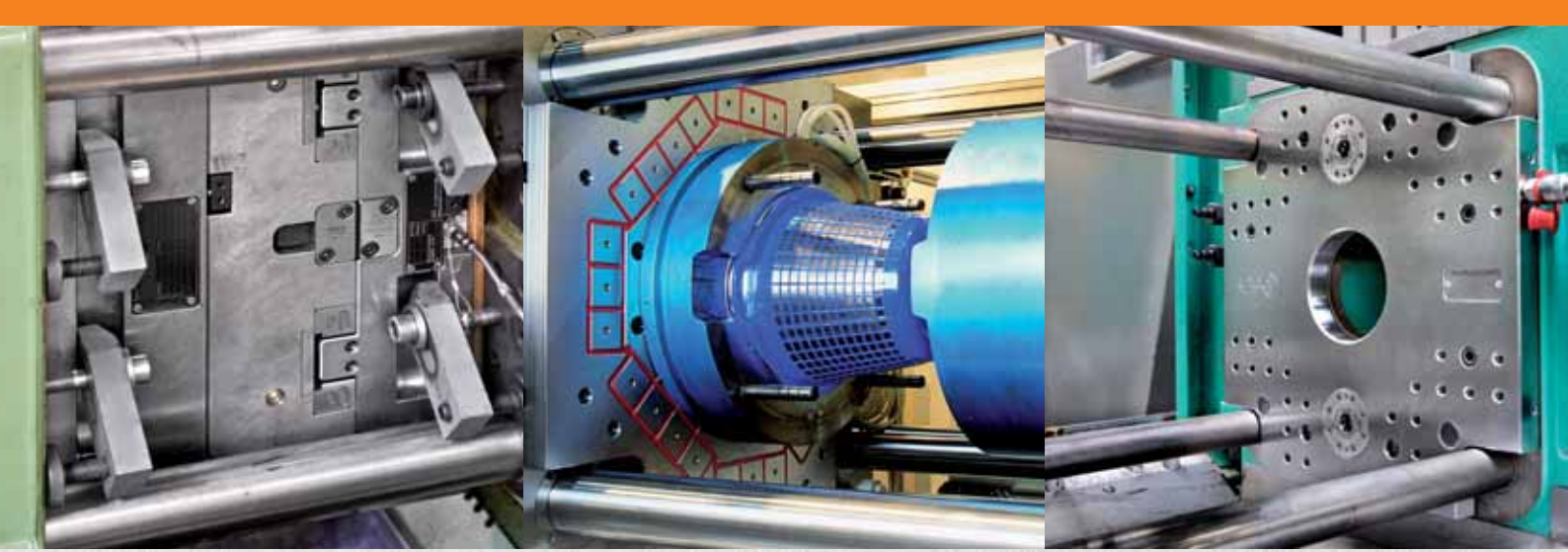


# CLAMPING ELEMENTS FOR INJECTION MOULDING



**CLAMPING. SCREWING. LOCKING.**



## WE GENERATE EXCITEMENT.

Since its founding by Andreas Maier in 1890, our company has lived through many exciting times. Today we are the leading manufacturer in Europe, supplying over 5,000 different products from the fields of clamping, screwing and locking. With this extensive product range we can meet all of our customers' needs and requirements. But providing optimal quality means meeting the challenges at all levels: Expert consultation, modern team organisation, individual solutions (including special developments), flexibility in response to changing conditions, etc. And we ourselves find this so exciting that we look forward every day to shaping the market together with our employees and our customers – both now and in the future. That is something you can count on.

### COMPANY HISTORY

- 1890** Company founded by Andreas Maier as a lock manufacturer.
- 1920** Production program extended to include spanners.
- 1928** Production-line assembly of „FELLBACH LOCKS“.
- 1951** With the introduction of clamping elements, AMF diversified into the fields of workpiece and tool clamping.
- 1965** Toggle clamps extend the AMF product range. AMF catalogues are now published in ten languages.
- 1975** Hydraulic clamping marks further specialisation.
- 1982** Clamping and fixture systems round off AMF's clamping expertise.
- 1996** Introduction of the AMF Team Organisation in all business sectors. Quality assurance certified to ISO 9001.
- 2001** Introduction of the AMF Service Guarantee for all products.
- 2004** Introduction of the ZPS zero-point clamping system.
- 2007** The Trec clamping system for automated welding and magnetic clamping technology extend the AMF product range.



#### 5 Individual development

You cannot find the product you need? Talk to us; we will find the right solution for you – from a special version, right through to a completely new development.

#### 4 Warranty

We believe in the high quality of our products. Complaints are dealt with quickly, unbureaucratically and generously – as far as possible, even well-beyond the guarantee period.

#### 3 Certified quality

AMF stands for painstaking production in our own works. We have followed this tradition since 1890 – today, of course, with a modern quality assurance system to ISO 9001.

#### 2 Short delivery times

From the AMF finished-product stores with over 5,000 articles, we can supply 98 % of orders from stock. And you can be sure that every stock article ordered is dispatched the same day.

#### 1 Real technical advice

Many tasks and a multitude of solutions. From AMF Professional Products you can find the right way to solve your problem – fast and reliably – either at your local dealer or with the help of the specialist in our team. Just call us!

#### E Made in Germany

It goes without saying that our range of products is developed and manufactured by our team of employees in Germany.

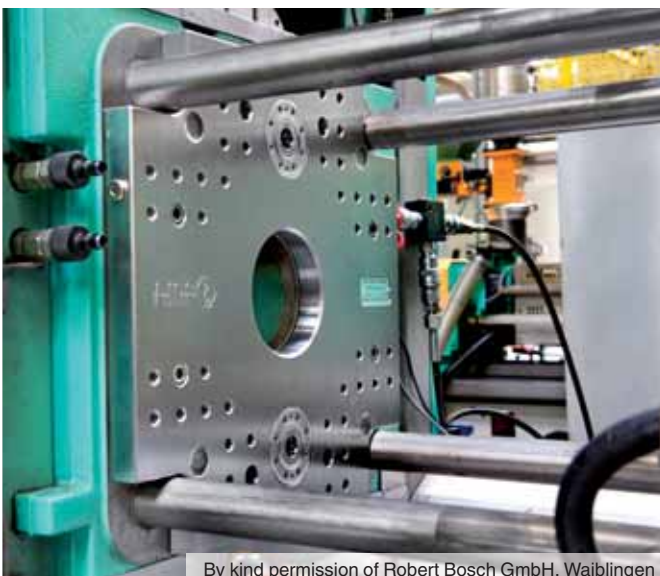
#### MANAGING DIRECTORS

- > Volker Göbel
- Johannes Maier
- Hans-Günther Maier

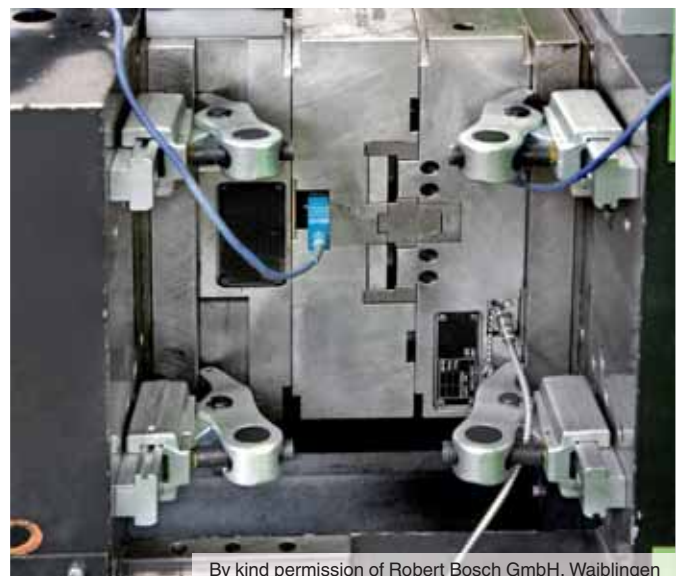
#### THE AMF SERVICE GUARANTEE

- > Assuredly on the way to the top

MECHANICAL CLAMPING ELEMENTS FOR INJECTION MOULDING	6 - 8
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# AMF CLAMPING ELEMENTS FOR ALL ASPECTS OF INJECTION MOULDING.



MECHANICAL CLAMPING ELEMENTS



POWER CLAMPS



MECHANICAL CLAMPS





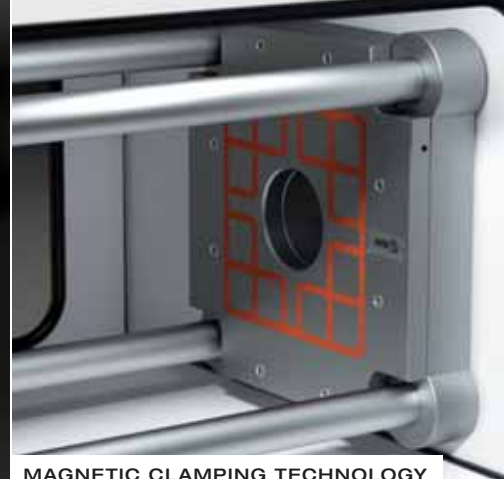
This catalogue offers a range of tool clamping solutions that is unique in its diversity. As a market leader in the field of clamping technology, we offer practical, proven clamping elements and systems which help significantly reduce set-up times in your day-to-day work. See the versatility and benefits of our clamping solutions for yourself in the tool clamping section...



HYDRAULIC CLAMPING SYSTEMS



ZERO-POINT SYSTEMS



MAGNETIC CLAMPING TECHNOLOGY

## No. 6313K

### Clamp short with saddle

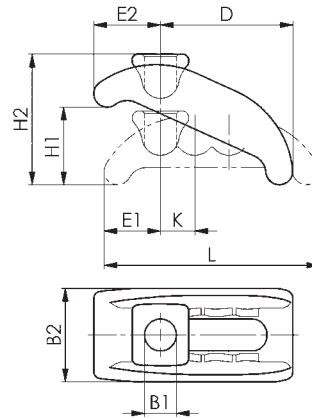
(without clamping bolt)  
continuously adjustable, tempered, galvanized and blue passivated.



Order no.	B1	for clamp. screw	B2 x L	D	E1	E2	H1	H2	K	Weight [g]
73932	13	M12	38x 88	48	23	28	0-35	52	14	275
73940	18	M16	56x130	74	29	38	0-55	80	18	790
73957	22	M20	66x140	80	32	46	0-65	98	20	1200
73965	26	M24	76x174	100	39	52	0-75	110	24	1700
73973	32	M30	90x200	110	44	61	0-80	118	28	2770

#### Note:

Suitable clamping bolts: DIN 787 and DIN 6331.  
Suitable nuts and washers: DIN 508, DIN 6340 and DIN 6330.



## DIN 6314

### Plain clamp

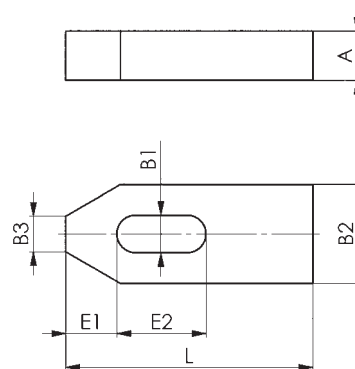
Tempering steel, varnished.



Order no.	B1	L	for clamp. screw metric	for clamp. screw inch	A	B2	B3	E1	E2	Weight [g]
70037	14	100	M12 M14	1/2	20	40	14	21	40	490
70052	18	125	M16 M18	5/8	25	50	18	26	45	1000
70078	22	160	M20 M22	3/4	30	60	22	30	60	1830
70094	26	200	M24	1	30	70	26	35	80	2650
70110	33	250	M30	1 1/4	40	80	34	45	100	5000

#### Note:

Ideal for use in combination with support block with magnet no. 6501M.  
Suitable clamping bolts: DIN 787 and DIN 6331.  
Suitable nuts and washers: DIN 508, DIN 6340 and DIN 6330.



Subject to technical alterations.

## No. 6314V

### Tapered clamp with adjusting support screw

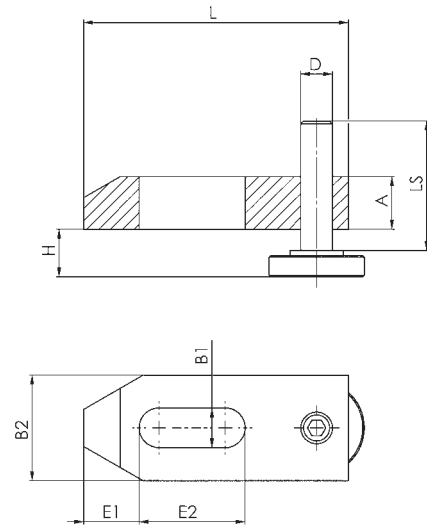
Tempering steel, varnished.



Order no.	H	sim. DIN6316 B1xL	D x LS	A	B2	E1	E2	Weight [g]
70193	10-47	14x100	M12x49	20	40	21	40	560
70821	10-92	14x100	M12x94	20	40	21	40	635
70219	13-52	18x125	M16x55	25	50	26	45	1110
70839	13-87	18x125	M16x90	25	50	26	45	1230
70201	16-65	22x160	M20x69	30	60	30	60	2050
70847	16-105	22x160	M20x109	30	60	30	60	2230
70151	20-83	26x200	M24x87	30	70	35	80	3200
70854	20-133	26x200	M24x137	30	70	35	80	3470

#### Note:

Suitable clamping bolts: DIN 787 and DIN 6331.  
Suitable nuts and washers: DIN 508, DIN 6340 and DIN 6330.



## No. 6314AV

### Spanneisen abgesetzt, mit verstellbarer Stützschraube

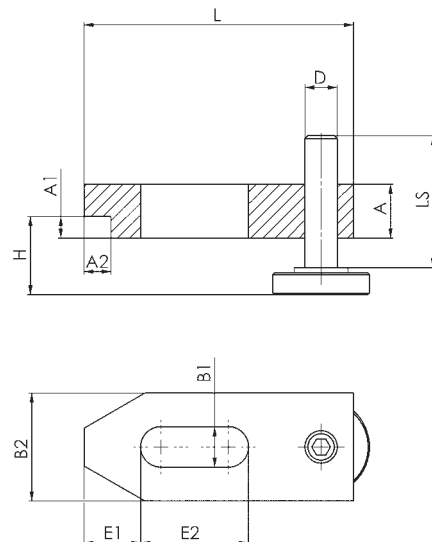
Vergütungsstahl lackiert.



Order no.	H	sim. DIN6314 B1xL	D x LS	A	A1xA2	B2	E1	E2	Weight [g]
74567	10-55	14x100	M12x49	20	8 x 10,0	40	21	40	580
74575	13-62	18x125	M16x55	25	10x12,5	50	26	45	1140
74583	16-77	22x160	M20x69	30	12x15,0	60	30	60	2100

#### Note:

Suitable clamping bolts: DIN 787 and DIN 6331.  
Suitable nuts and washers: DIN 508, DIN 6340 and DIN 6330.  
Additional support screw sizes M12x94, M16x90, M20x109 see item no. 6314S



## No. 6315V

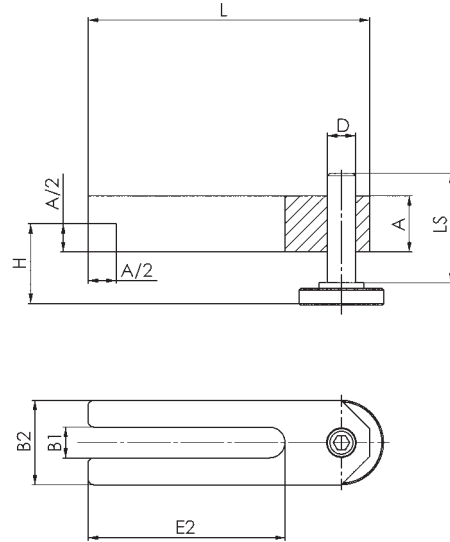
### Stepped clamp with adjusting support screw

Tempering steel, varnished.

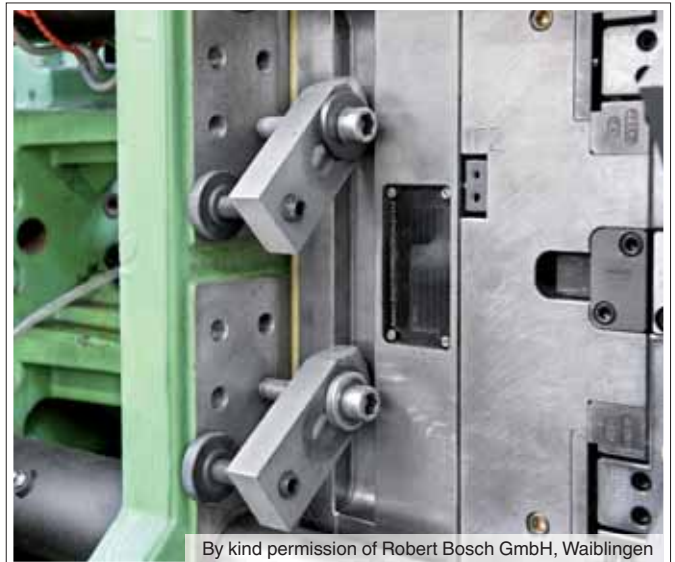
Order no.	H*	sim. DIN 6315B B1 x L	D x LS	A	B2	E2	Weight [g]
71175	10-59	14x125	M12x49	25	40	90	700
71191	13-67	18x160	M16x55	30	50	110	1300
71258	16-85	22x200	M20x69	40	60	135	2600

#### Note:

Suitable clamping bolts: DIN 787 and DIN 6331.  
 Suitable nuts and washers: DIN 508, DIN 6340 and DIN 6330.  
 Additional support screw sizes M12x94, M16x90, M20x109 see item no. 6314S



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Subject to technical alterations.



## No. 6400M

### Screw jack with flat support and magnetic base

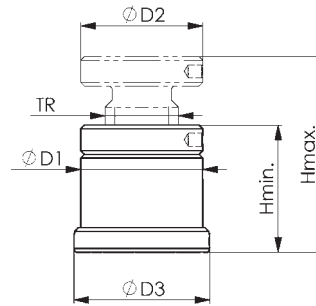
Centring hole dia. 12 mm.  
Spindle: Self-locking trapezoidal thread with final stop.  
Tempering steel, varnished.



Order no.	Size	H min.	H max.	TR	D1	D2	D3	F max. [kN]	Weight [g]
73320	52	52	62	30x4	50	50	55	60	700
73361	70	60	80	30x4	50	50	55	60	770
73403	100	80	110	30x4	50	50	55	60	1050

#### Note:

AMF-magnetic screw jacks are designed for horizontal and vertical applications. The permanent magnet ensures a lasting and precise positioning of workpiece on vertical faces. The screw jacks are suitable for clamps with a slot width of approx. 14-22 mm. When using clamps DIN 6415B, 6315C and 6315GN from 26 mm slot width, we recommend, by way of precaution, fixing cap number no. 6443. Suitable caps for screw jack nr. 6400M are nos. 6440, 6441, 6443 and 6445. The suitable support for the dismantled magnetic base is no. 6442.



## No. 6501M

### Step block with magnet

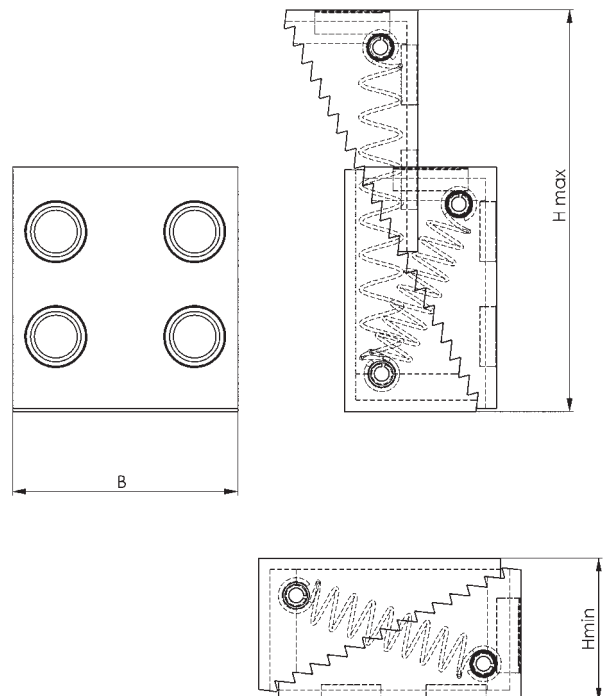
contact face 60 mm wide. With link spring.  
Step increments vertical 4.65 mm, horizontal 2.3 mm.  
Tempering steel, blued.



Order no.	Size	H min.	H max.	B	Weight [g]
373969	2	37	107	60	980

#### Note:

The two parts of this AMF support block are connected by a spring for ease of handling.  
Holding force 4 magnets = 380 N  
Holding force 2 magnets = 280 N



## No. 7500K

### Power Clamp for injection moulding

complete with mounting.  
Robust clamping element made of alloyed tempered steel, forged, for variable clamping heights, with sliding base element.

- Components:
- Base element
  - Carrier element



Order no.	max. load [kN]	G	H min.	H max.	Weight [g]
372961	16	M12	17	51	1240
373894	25	M12	0	63	2943
373902	25	M16	0	63	2922

#### Application:

1. Position and fasten carrier element on the tool plate
2. Push the base element into the desired position on the carrier table. After this is done, it is ready for operation.
3. Adjust the height of the clamping arm with the adjusting bolt and clamp the tool.
4. The very robust design enables quick and easy clamping.

#### Advantage:

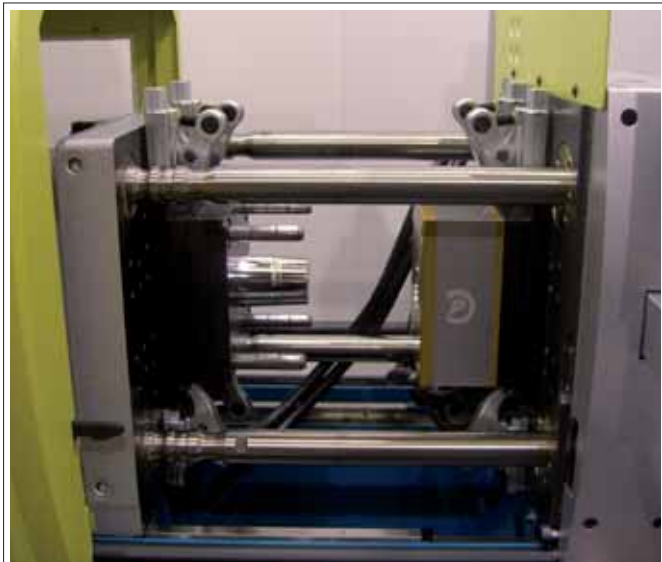
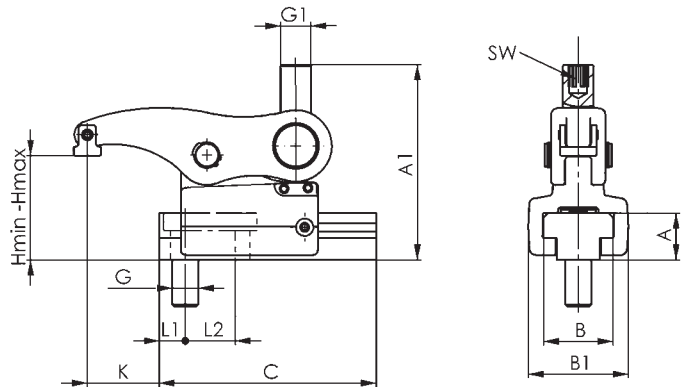
- max. load 16 kN
- Two joints for minimal wear
- Use on tool plates with T-grooves and pitch
- Low installation height provided by adjusting bolt with hexagon socket
- Variable positioning with slot in carrier element

#### Note:

To reduce wear to the adjusting bolt, we recommend using AMF screw compound No. 6339. It possesses a synergistic combination of highly-effective solid lubricants and is heat-resistant and does not wash out.

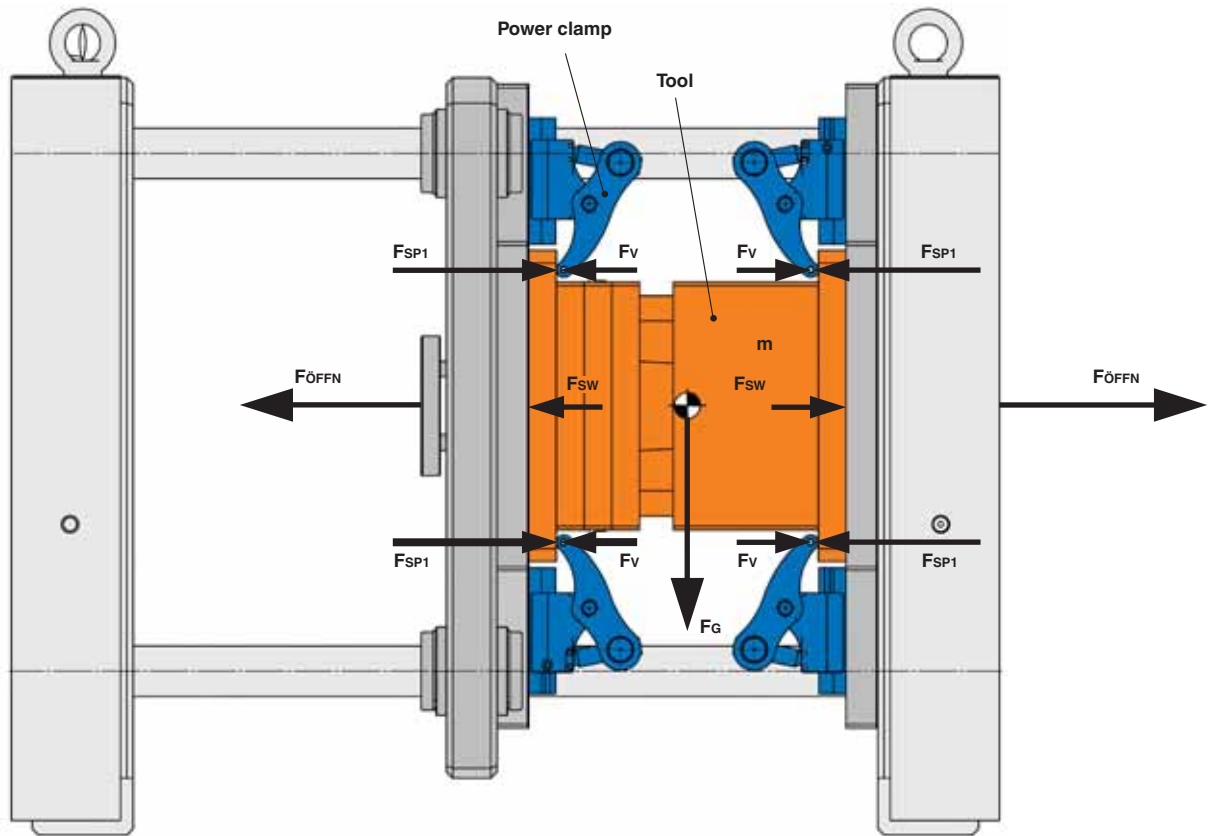
#### Dimensions table:

Order no.	A	A1	B	B1	C	G1	K	L1	L2	SW
372961	21,5	92	32	46	100	M14	8-43	12	23	8
373894	32,0	125	40	54	135	M16	32-97	16	25	8
373902	32,0	125	40	54	135	M16	32-97	20	30	8



Subject to technical alterations.

## General calculation of the number of power clamps on injection moulding machines



### Legend:

<b>FG</b>	= Weight [kN]	<b>g</b>	= Acceleration (9.81 m/s <sup>2</sup> )
<b>Fsw</b>	= Required tool clamping force on basis of tool weight [kN]	<b>m</b>	= Tool mass [Kg]
<b>Fsp</b>	= Max. load of power clamp [kN] (see No. 7500K)	<b>n1</b>	= No. of power clamps required on basis of tool weight
<b>Fsp1</b>	= Difference between Fsp and Fv [kN]	<b>n2</b>	= No. of power clamps required on basis of opening force
<b>Fv</b>	= Pre-tensioning force of power clamp [kN]	<b>μ</b>	= Friction coefficient (~0.14)
<b>Foffn</b>	= Opening force of injection moulding machines [kN] (see datasheet on injection moulding machine)		

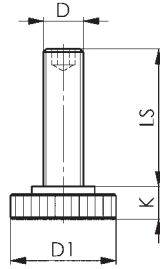
### Calculation formula:

1. Calculation of weight [kN]:  $FG = \frac{m \times g}{1000}$
2. Calculation of tool force [kN]:  $Fsw = \frac{FG}{\mu}$
3. No. of power clamps required on basis of tool weight:  $n1 = \frac{Fsw}{Fsp1}$
4. No. of power clamps required on basis of opening force:  $n2 = \frac{Foffn}{Fsp1}$
5. **Result** = comparison between n1 and n2. Use the larger figure.

## No. 6314S

### Support screw

Hardened, strength class 8.8  
Suitable for all lockable clamps.

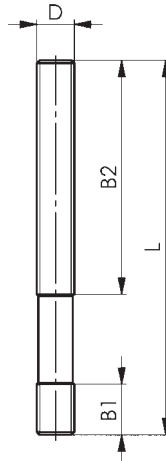


Order no.	D x LS	D1	K	Weight [g]
73445	M12x49	36	10	96
74039	M12x94	36	10	145
73452	M16x55	42	13	180
74047	M16x90	42	13	230
73460	M20x69	50	16	320
74054	M20x109	50	16	400
73478	M24x87	60	20	590
74062	M24x137	60	20	820

## DIN 6379

### Studs

Rolled thread. M12 tempered to strength class 10.9,  
M14-M30 tempered to strength class 8.8.  
The specially developed AMF-studs for clamping purposes  
are graduated by length according to DIN 323 series R10 figures.



Order no.	D x L	B1	B2	Weight [g]
84855	M12x 50	15	25	37
81331	M12x 63	15	32	45
84863	M12x 80	15	50	55
81349	M12x100	15	63	70
84871	M12x125	15	75	90
85480	M12x160	15	100	113
81372	M14x 63	17	32	80
84467	M14x80	17	50	85
81380	M14x100	17	63	90
84475	M14x125	17	75	120
81398	M14x160	17	100	150
86553	M14x200	17	125	195
84897	M14x250	17	160	240
84905	M16x 63	19	32	85
81414	M16x 80	19	50	105
84913	M16x100	19	63	130
81422	M16x125	19	75	160
84921	M16x160	19	100	218
84939	M16x250	19	160	325
85548	M16x315	19	180	425
84947	M18x 80	23	50	130
84954	M18x125	23	75	200
86561	M18x160	23	100	255
81471	M18x200	23	125	320
81489	M18x250	23	150	400
84962	M18x315	23	180	500
84970	M20x 80	27	32	185
84988	M20x125	27	70	255
85506	M20x160	27	100	330
81513	M20x200	27	125	410
81521	M20x250	27	160	510
84996	M20x315	27	200	640
85977	M20x400	27	250	815
85019	M22x100	31	45	270
81539	M22x160	31	100	430
86579	M22x200	31	125	500
81554	M22x250	31	160	670
86595	M22x315	31	180	790
85027	M22x400	31	250	1070
85035	M24x100	35	45	290
85563	M24x125	35	70	380
81570	M24x160	35	100	470
85514	M24x200	35	125	580
81596	M24x250	35	160	730
86009	M24x315	35	200	920
85043	M24x400	35	250	1160
85068	M30x125	43	56	590
81612	M30x200	43	125	950
81620	M30x315	43	200	1490
81638	M30x500	43	315	2360

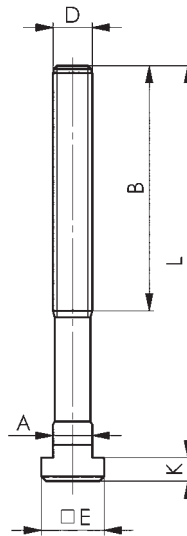
Subject to technical alterations.



## DIN 787

### Bolts for T-slots

Forged, T-slot guid-faces milled, rolled thread,  
AMF-symbol and strength class punched into head.  
M12 tempered to strength class 10.9,  
M14-M30 tempered to strength class 8.8



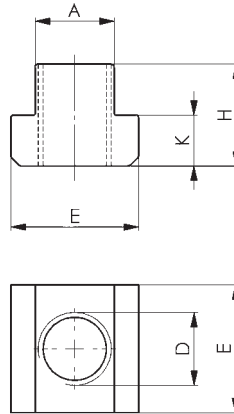
Order no.	D x Slot x L	A	B	E	K	Weight [g]
80853	M12x12x50	11,7	35	18	7	120
85746	M12x12x63	11,7	40	18	7	128
80861	M12x12x80	11,7	55	18	7	130
81448	M12x12x100	11,7	65	18	7	145
80879	M12x12x125	11,7	75	18	7	170
81505	M12x12x160	11,7	100	18	7	195
80895	M12x14x50	13,7	35	22	8	130
85753	M12x14x63	13,7	45	22	8	145
80903	M12x14x80	13,7	55	22	8	155
82974	M12x14x100	13,7	65	22	8	155
80911	M12x14x125	13,7	75	22	8	180
84376	M12x14x160	13,7	100	22	8	210
80937	M14x16x63	15,7	45	25	9	200
84442	M14x16x80	15,7	55	25	9	220
80945	M14x16x100	15,7	65	25	9	230
84459	M14x16x125	15,7	75	25	9	280
80952	M14x16x160	15,7	100	25	9	310
80960	M14x16x250	15,7	120	25	9	390
80978	(M16x16x63)	15,7	45	25	9	250
85761	(M16x16x80)	15,7	55	25	9	275
80986	(M16x16x100)	15,7	65	25	9	290
84392	(M16x16x125)	15,7	85	25	9	300
80994	(M16x16x160)	15,7	100	25	9	380
81018	M16x18x63	17,7	45	28	10	260
85787	M16x18x80	17,7	55	28	10	305
81026	M16x18x100	17,7	65	28	10	315
84418	M16x18x125	17,7	85	28	10	360
81034	M16x18x160	17,7	100	28	10	400
84301	(M20x20x80)	19,7	55	32	12	520
81547	(M20x20x100)	19,7	65	32	12	570
84319	(M20x20x125)	19,7	85	32	12	560
85803	(M20x20x160)	19,7	110	32	12	680
81059	M20x22x80	21,7	55	35	14	530
85837	M20x22x100	21,7	65	35	14	610
81067	M20x22x125	21,7	85	35	14	670
85811	M20x22x160	21,7	110	35	14	710
81075	M20x22x200	21,7	125	35	14	750
81216	(M24x24x100)	23,7	70	40	16	910
85860	(M24x24x125)	23,7	85	40	16	970
81224	(M24x24x160)	23,7	110	40	16	1040
81091	M24x28x100	27,7	70	44	18	980
85886	M24x28x125	27,7	85	44	18	1010
81109	M24x28x160	27,7	110	44	18	1150
85894	M24x28x200	27,7	125	44	18	1240
81117	M24x28x250	27,7	150	44	18	1500
81133	M30x36x125	35,6	80	54	22	1860
85902	M30x36x160	35,6	110	54	22	1950
81141	M30x36x200	35,6	135	54	22	2230
85910	M30x36x250	35,6	150	54	22	2555

( ) similar to DIN.  
Other sizes on request.

## DIN 508

### Nuts for T-slots (T-nuts)

tempered, strength class 10. The nuts for the T groove can only experience a full load when the screw connection exists over the entire length of the thread.



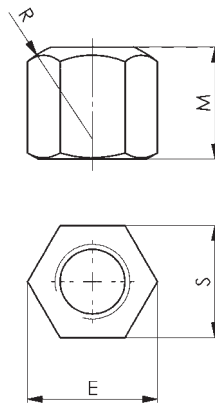
Order no.	D x Slot	A	E	H	K	Weight [g]
80044	M12x14	13,7	22	16	8	35
80168	M12x16*	15,7	25	18	9	50
80051	M14x16*	15,7	25	18	9	50
80176	M14x18*	17,7	28	20	10	70
80069	M16x18	17,7	28	20	10	70
80184	M16x20*	19,7	32	24	12	110
80077	M18x20*	19,7	32	24	12	110
155630	M16x22*	21,7	35	28	14	176
80242	M18x22*	21,7	35	28	14	163
80085	M20x22	21,7	35	28	14	155
159418	M16x24*	23,7	40	32	16	260
80192	M20x24*	23,7	40	32	16	235
80093	M22x24*	23,7	40	32	16	220
80358	M22x28*	27,7	44	36	18	340
80101	M24x28	27,7	44	36	18	322
80200	M24x30*	29,7	48	38	19	440
80127	M30x36	35,6	54	44	22	590
80226	M30x42*	41,6	65	52	26	1150

\* Former standard 1928 or AMF works standard.  
Special makes on request.

## DIN 630B

### Hexagon nut

height 1,5 dia. Tempered, tensile strength class 10.  
With spherical end matching taper face of washers DIN 6319G.



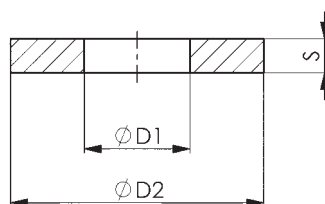
Order no.	Size	E	M	R	S	Weight [g]
82396	M12	21,9	18	17	*19	28
82321	(M14)	24,2	21	20	21	34
82412	M16	27,7	24	22	24	58
82420	(M18)	31,2	27	24	27	83
82438	M20	34,6	30	27	30	110
82339	(M22)	39,2	33	30	34	185
82453	M24	41,5	36	32	36	195
82479	M30	53,1	45	41	46	405

\* Old DIN standard.  
( ) DIN expanded.

## DIN 6340

### Washer

tempered (350 + 80 HV30)

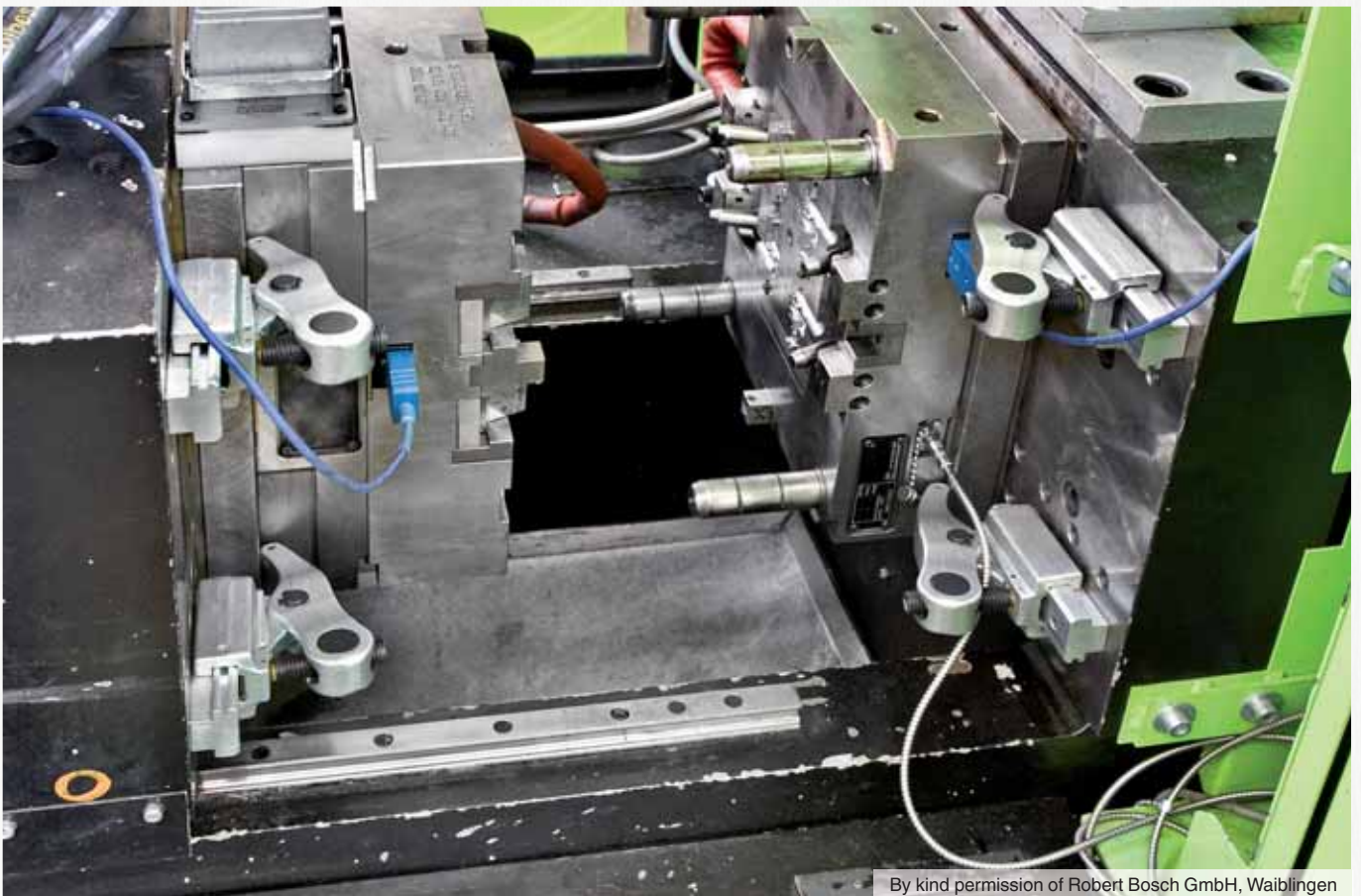


Order no.	Size	Size inch	D1	D2	S	Weight [g]
82842	M12	1/2	13	35	5	35
82859	(M14)	-	15	40	5	40
82867	M16	5/8	17	45	6	60
82875	(M18)	-	19	45	6	60
82883	M20	3/4	21	50	6	73
82891	(M22)	7/8	23	50	8	92
82909	M24	7/8	25	60	8	170
82925	M30	1 1/8, 1 3/16	31	68	10	230

Sizes to DIN, but are punched and gauged.  
( ) DIN extended.



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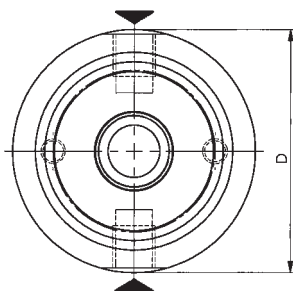
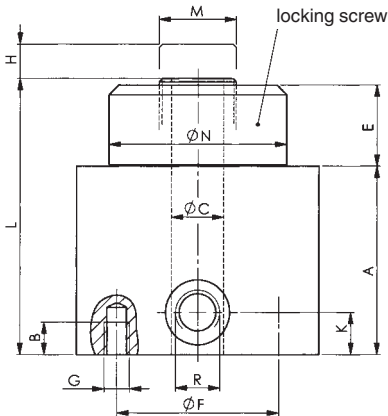


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## No. 6921S

### Hollow Rod Cylinder with mechanic locking

single acting,  
spring return.



Order no.	push-pull force at 100 bar [kN]	push-pull force at 250 bar [kN]	Max. operating pressure [bar]	Stroke H [mm]	Vol. [cm <sup>3</sup> ]	Piston dia. [mm]	effective piston area [cm <sup>2</sup> ]	Spring force min. [N]	Weight [kg]
69047	17,8	45,5	250	6	11	55	18,5	700	2,2
69005	24,4	63,2	300	10	26	70	25,9	1500	5,2

#### Design:

Cylinder housing made of steel, blued. Piston and piston rod case-hardened and ground. Retraction by disc springs. Locking enable due external thread on piston rod and hand-locking nut. Wiper to protect against contamination.

#### Application:

Typical use on injection molding machines and presses to hold the molds and dies.

#### Features:

After clamping process the piston will be kept and secured in clamping position by fastening the hand nut. Hydraulic pressure can be released and the power source disconnected. For unclamping, the cylinder has to be pressurised in order to allow a free movement of the hand nut back into its original position.

#### Note:

For single acting cylinders there is risk of sucking in coolant during the return stroke. In this case the cylinders have to be protected against the direct effect of coolant. The built in sinter metal breather should be protected.

#### Dimensions table:

Order no.	A	B	ØC	ØD	E	F	G	K	L	M	ØN	R
69047	58	10	16,5	75	25	50	M8	13	85	M24x1,5	55	G1/4
69005	85	10	24,2	100	30	70	M10	16	118	M38x1,5	70	G1/4



Subject to technical alterations.



## No. 6946

### Wedge clamp, hydraulic

dual acting.

Max. operating pressure 350 bar (400 bar\*)



Order no.	Size	Clamping force [kN]	max. load [kN]	with position monitoring	without position monitoring	Weight [kg]
325134	25	25	36	-	X	2,6
325142	25	25	36	X	-	2,6
325159	50	50	72	-	X	6,1
325167	50	50	72	X	-	6,1
325175	100	100	145	-	X	11,5
325183	100	100	145	X	-	11,5
325191	160	160	230	-	X	23,0
325209	160	160	230	X	-	23,0

### Design:

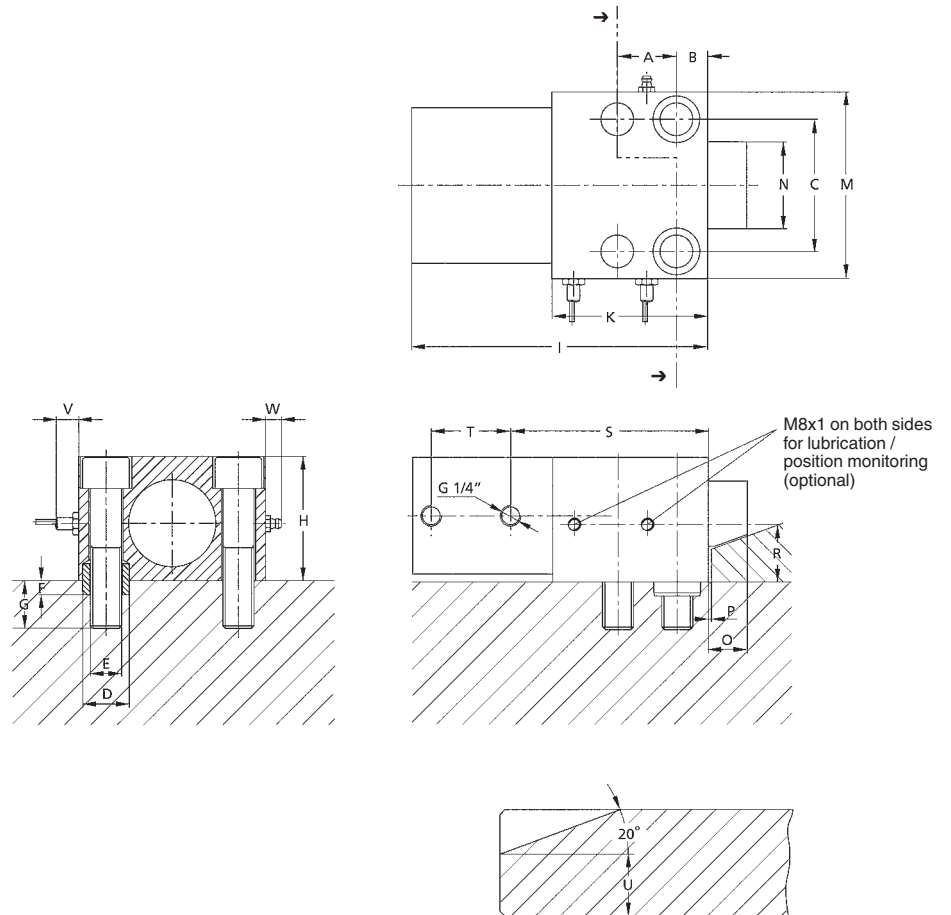
Wedge clamps are hydraulic clamping elements which are installed in a fixed position, e.g. on the clamping table of the injection moulding machine. This makes it possible to securely clamp injection moulding tools with slanted clamping rim.

### Note:

The maximum permitted load per clamp must not be exceeded.

The clamping force acts vertically on the clamping point which applies very low sliding forces to the tool.

\* When using fixing screws of 10.9 quality a maximum operating force of 400 bar is permitted. A mounting surface with corresponding thread resistance (at least corresponding to St 50) is required.

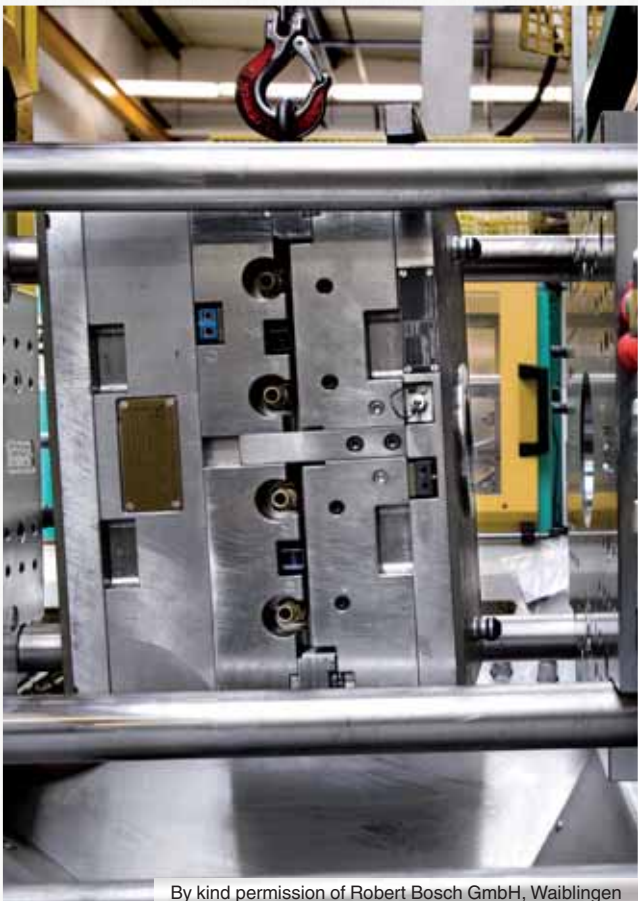


### Dimensions table:

Order no.	A	B	C ±0,02	ØD6 H8	E	F	G	H	I	K	M	N	O	P	R	S	T	U	V	W
325134	24	14	48	18	M12	7	30	48	122	58	70	30	20	3	21,5	78	33	15	12	11
325142	24	14	48	18	M12	7	30	48	122	58	70	30	20	3	21,5	78	33	15	12	11
325159	30	16	65	26	M16	9	40	65	157	78	95	40	25	3	28,5	103	43	18	6	11
325167	30	16	65	26	M16	9	40	65	157	78	95	40	25	3	28,5	103	43	18	6	11
325175	38	20	85	30	M20	11	45	80	190	100	120	56	25	3	37,0	127	51	25	16	11
325183	38	20	85	30	M20	11	45	80	190	100	120	56	25	3	37,0	127	51	25	16	11
325191	50	25	106	35	M24	11	50	105	222	120	150	70	30	3	49,0	148	57	30	8	11
325209	50	25	106	35	M24	11	50	105	222	120	150	70	30	3	49,0	148	57	30	8	11



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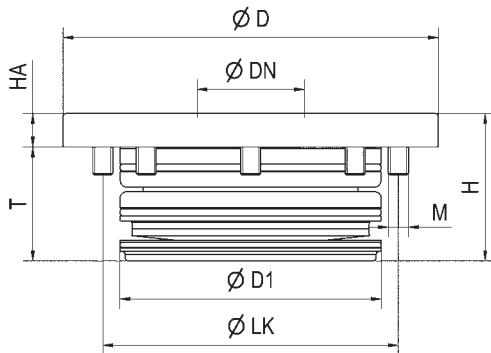
## No. 6370EARH

### Installation clamping module, round

Hydraulic unlocking.  
Cover and piston hardened.  
Repeatability < 0.005 mm.  
Max. operating temperature 80°



STAINLESS STEEL



Order no.	Size	Pull-in/locking force up to [kN]	Holding force [kN]	Blow out	Weight [Kg]
303628	K10	10	25	-	0,45
305367	K10	10	25	X	0,45
302984	K20	20	55	-	1,40
302992	K20	20	55	X	1,40
303024	K40	40	105	-	3,45
303032	K40	40	105	X	3,45

#### Application:

With a small footprint for installation in base plates or directly into the machine table (clamping unit).

#### Note:

The installation clamping modules have high holding and pull-in forces with very small installation dimensions. Hydraulic pressure is only needed for unclamping (min. 50 bar / max. 60 bar). The modules are mechanically locked in the clamped position. The advantages of this are that there are no cumbersome lines and no danger of leakage.

#### On request:

- Installation diagrams
- Automation solutions

#### Dimensions table:

Order no.	Size	øD	øDN	øD1	H	HA	øLK	M	T
303628	K10	78	22	50	30	7	60	M5	23
305367	K10	78	22	50	30	7	60	M5	23
302984	K20	112	32	78	44	10	88	M6	34
302992	K20	112	32	78	44	10	88	M6	34
303024	K40	148	40	102	57	15	118	M8	42
303032	K40	148	40	102	57	15	118	M8	42

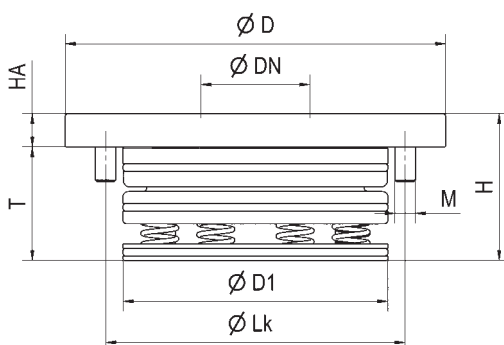
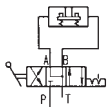
## No. 6370EARL

### Installation clamping module, round

Pneumatic unlocking.  
Cover and piston hardened.  
Repeatability < 0.005 mm.  
Max. operating temperature 80°



STAINLESS STEEL



Order no.	Size	Pull-in/locking force up to [kN]	Holding force [kN]	Blow out	Weight [Kg]
303602	K10	8	25	-	0,45
305375	K10	8	25	X	0,45
303008	K20	17	55	-	1,40
303016	K20	17	55	X	1,40
303040	K40	30	105	-	3,45
303057	K40	30	105	X	3,45

#### Application:

With a small footprint for installation in base plates or directly into the machine table (clamping unit).

#### Note:

The installation clamping modules have high pull-in and holding forces with compact installation dimensions. The pneumatic module acts like a spring advance pneumatic cylinder and has two connections: 1 x clamp and 1 x unclamp. To unclamp, air pressure of min 6 bar / max 12 bar is applied to the 'unclamp' port. Air pressure is maintained to hold the clamp open. To clamp; the unclamp air pressure is released and the cylinder closes under spring force. Air pressure of max 6 bar is momentary applied to the 'clamp' port to achieve the specific pull-in force. Once clamped the air pressure is then removed. The clamping module is mechanically locked in the clamping position and does not require a constant air pressure during operation.

#### On request:

- Installation diagrams
- Automation solutions

#### Dimensions table:

Order no.	Size	øD	øDN	øD1	H	HA	øLK	M	T
303602	K10	78	22	50	30	7	60	M5	23
305375	K10	78	22	50	30	7	60	M5	23
303008	K20	112	32	78	44	10	88	M6	34
303016	K20	112	32	78	44	10	88	M6	34
303040	K40	148	40	102	57	15	118	M8	42
303057	K40	148	40	102	57	15	118	M8	42

Subject to technical alterations.

## No. 6370ZN-10

### Clamping nipple for clamping modules K10

hardened, for hydraulic and pneumatic clamping modules (size K10).



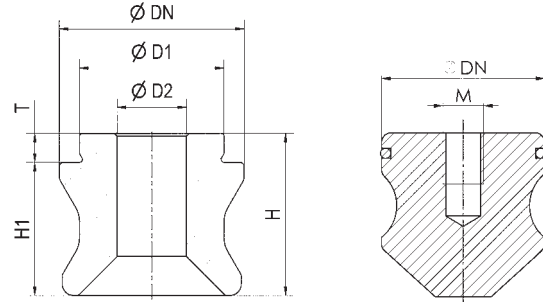
STAINLESS STEEL



Order no.	Size	øDN	øD1	øD2	H	H1	M	T	Weight [g]
303610	K10	22,0	15	8	19	16	-	3	30
303636	K10	22,0	15	8	19	16	-	3	30
304519	K10	22,0	15	8	19	16	-	3	30
304535	K10	21,8	-	-	-	-	M 8	-	30

#### Design:

Order no. 303610: Zero-point nipple, Order no. 303636: Slit nipple, Order no. 304519: Undersized nipple, Order no. 304535: Protective nipple



Zero-point-, Slit and Undersized nipple

Protective nipple

## No. 6370ZN-20

### Clamping nipple for clamping modules K20

hardened, for hydraulic and pneumatic clamping modules (size K20).



STAINLESS STEEL

Order no.	Size	øDN	øD1	øD2	H	H1	M	T	Weight [g]
303149	K20	32,0	25	12	28	23	-	5	110
303156	K20	32,0	25	12	28	23	-	5	110
303164	K20	32,0	25	12	28	23	-	5	110
303172	K20	31,8	-	-	-	-	M8	-	110

#### Design:

Order no. 303149: Zero-point nipple, Order no. 303156: Slit nipple, Order no. 303164: Undersized nipple, Order no. 303172: Protective nipple

## No. 6370ZN-40

### Clamping nipple for clamping modules K40

hardened, for hydraulic and pneumatic clamping modules (size K40).



STAINLESS STEEL

Order no.	Size	øDN	øD1	øD2	H	H1	M	T	Weight [g]
303180	K40	40,0	25	16	34	29	-	5	180
303198	K40	40,0	25	16	34	29	-	5	180
303206	K40	40,0	25	16	34	29	-	5	180
303214	K40	39,8	-	-	-	-	M8	-	180

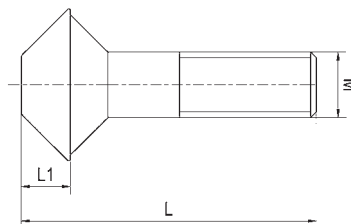
#### Design:

Order no. 303180: Zero-point nipple, Order no. 303198: Slit nipple, Order no. 303206: Undersized nipple, Order no. 303214: Protective nipple

## No. 6370ZNS-001

### Engagement nipple screw

Strength class 10.9.



Order no.	Size	M	L	L1	Weight [g]
303578	K10	M 8	37	6,0	30
303222	K20	M12	54	9,0	70
303230	K40	M16	69	10,0	130

#### On request:

Engagement nipple screws in various lengths and materials (e.g. high-grade stainless steel).

Subject to technical alterations.



## No. 6370ZD

### Pressure intensifier

Max. operating pressure 50 bar.

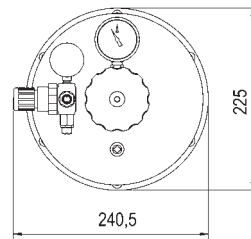
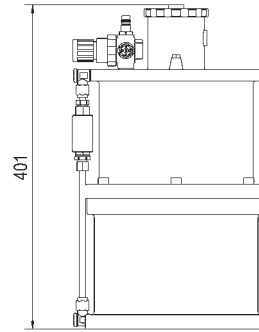
Order no.	Oil capacity [cm <sup>3</sup> ]	Flow rate [cm <sup>3</sup> /min.]	Ratio	max. no. of clamping cylinders	Weight [Kg]
303354	653	431	1 : 8,1	36 (Typ 20), 16 (Typ 40)	9,5

### Design:

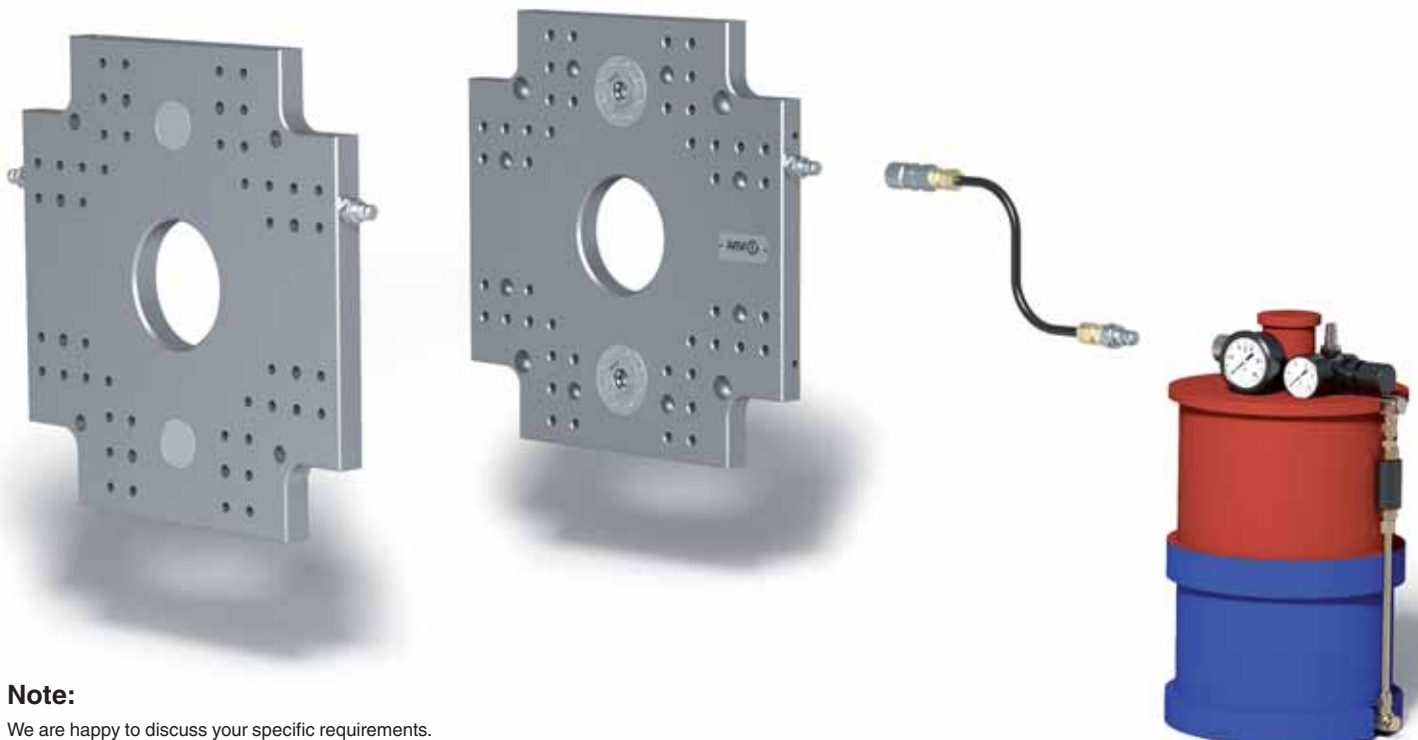
Compact, air-pressure operated hydraulic intensification pump for single-acting circuits. Complete with air-pressure regulator, air manometer, oil manometer.

### Note:

The pressure intensifier can be used as the drive element for individual clamping modules or hydraulic clamping stations. It is designed for single acting cylinders.



## Depiction of the principle of using the zero-point system on an injection moulding machine



### Note:

We are happy to discuss your specific requirements.  
We are looking forward to receiving your enquiries

## No. 2910S

### Magnetic clamping plate for injection moulding machines

- Scope of supply consists of:
- Magnetic clamping plate for fixed and movable side
  - Control unit 230V
  - Proximity switch for each side

Order no.	Size	L	B	H	Holding force max. [to]	Force / Poles [daN]	Weight [kg]
421651	50	510	460	45	4,8	600	55
421677	70	560	560	45	7,2	600	75
421693	100	690	640	45	9,6	600	110

#### Note:

- Max. achievable holding force when all poles occupied
- Max. operating temperature 120°C

#### The inductive proximity sensor monitors:

- The presence of the tool to activate the magnetisation cycle
- Enables immediate interruption of machine operation from a switching distance of 0.2 mm
- Separate monitoring of both plates

#### Control unit:

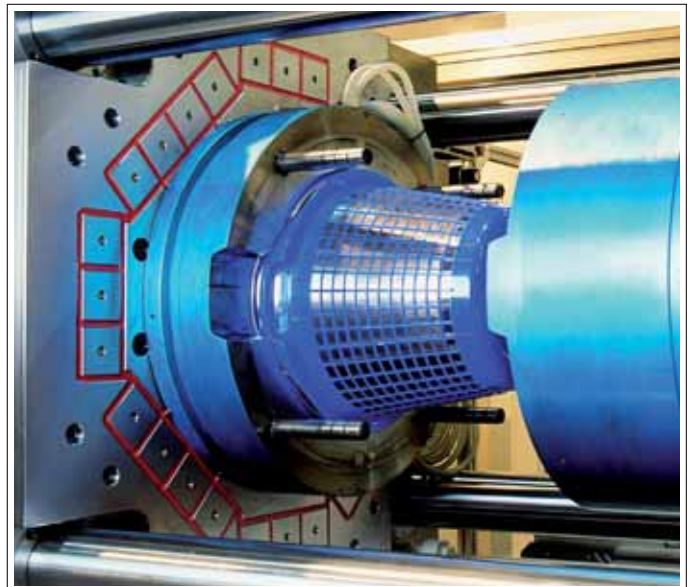
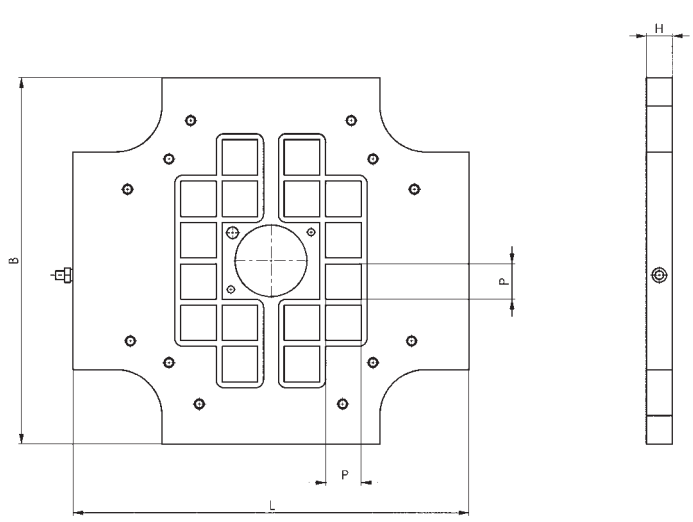
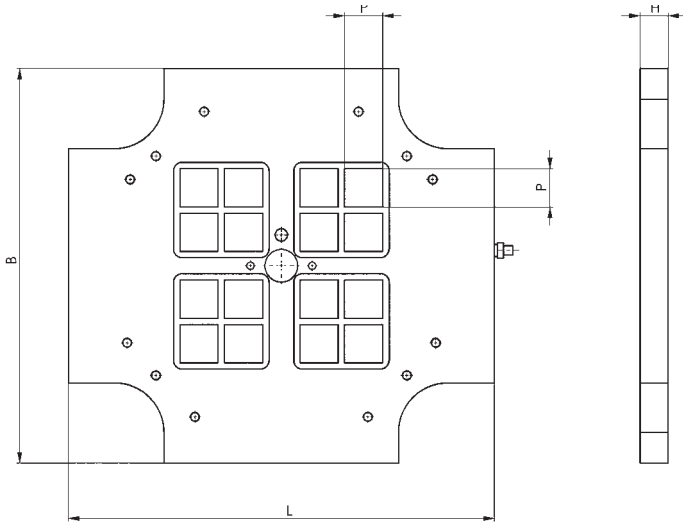
- UCS current control system
- Connector contact (DB9) for machine safety connector
- With key switch

#### Cable lengths:

- Discharge cable to movable plate: 14 m
- Discharge cable to fixed plate: 8 m

#### Mounting bores:

- In accordance with standards: Euromap, SPI, JIS
- Other mounting or ejector bores can be incorporated (see bore plan)

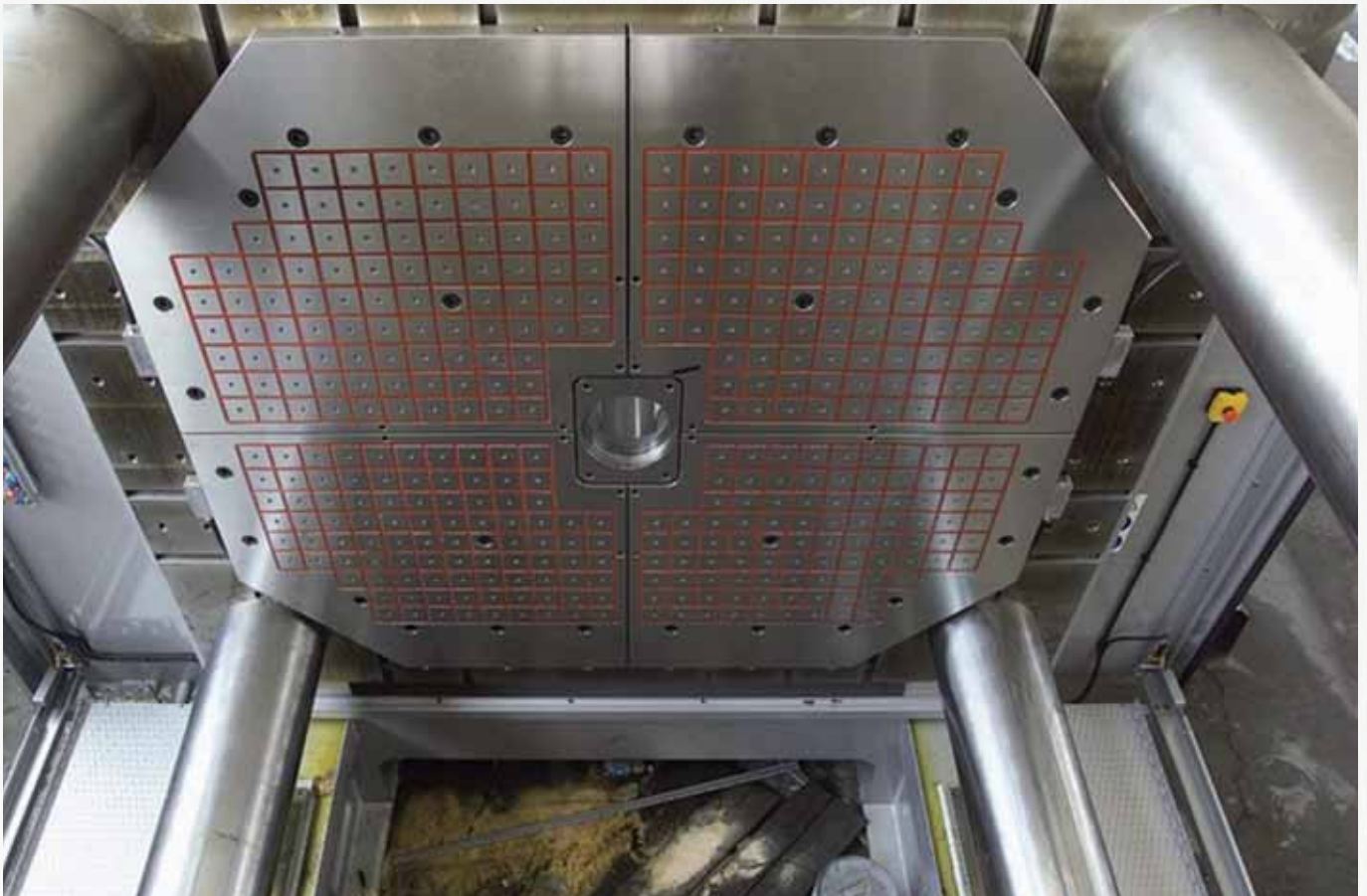


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## ... by item no.

Article no.	Cat. P.	Article no.	Cat. P.	Article no.	Cat. P.	Article no.	Cat. P.
No. 2910S	22	No. 6314V	7	No. 6370ZD	21	No. 6400M	9
DIN 508	14	No. 6315V	8	No. 6370ZN-10	20	No. 6501M	9
No. 6313K	6	DIN 6330B	14	No. 6370ZN-20	20	No. 6921S	16
DIN 6314	6	DIN 6340	14	No. 6370ZN-40	20	No. 6946	17
No. 6314AV	7	No. 6370EARH	19	No. 6370ZNS-001	20	No. 7500K	10
No. 6314S	12	No. 6370EARL	19	DIN 6379	12	DIN 787	13

## ... by order no.

Order no.	Cat. P.	Order no.	Cat. P.	Order no.	Cat. P.	Order no.	Cat. P.
69005	16	80861	13	<b>82842</b>	14	85977	12
69047	16	80879	13	82859	14	<b>86009</b>	12
<b>70037</b>	6	80895	13	82867	14	<b>86553</b>	12
70052	6	<b>80903</b>	13	82875	14	86561	12
70078	6	80911	13	82883	14	86579	12
70094	6	80937	13	82891	14	86595	12
<b>70110</b>	6	80945	13	<b>82909</b>	14	<b>155630</b>	14
70151	7	80952	13	82925	14	<b>159418</b>	14
70193	7	80960	13	82974	13	<b>302984</b>	19
<b>70201</b>	7	80978	13	<b>84301</b>	13	302992	19
70219	7	80986	13	84319	13	<b>303008</b>	19
<b>70821</b>	7	80994	13	84376	13	303016	19
70839	7	<b>81018</b>	13	84392	13	303024	19
70847	7	81026	13	<b>84418</b>	13	303032	19
70854	7	81034	13	84442	13	303040	19
<b>71175</b>	8	81059	13	84459	13	303057	19
71191	8	81067	13	84467	12	303149	20
<b>71258</b>	8	81075	13	84475	12	303156	20
<b>73320</b>	9	81091	13	<b>84855</b>	12	303164	20
73361	9	<b>81109</b>	13	84863	12	303172	20
<b>73403</b>	9	81117	13	84871	12	303180	20
73445	12	81133	13	84897	12	303198	20
73452	12	81141	13	<b>84905</b>	12	303206	20
73460	12	<b>81216</b>	13	84913	12	303214	20
73478	12	81224	13	84921	12	303222	20
<b>73932</b>	6	<b>81331</b>	12	84939	12	303230	20
73940	6	81349	12	84947	12	303354	21
73957	6	81372	12	84954	12	303578	20
73965	6	81380	12	84962	12	303602	19
73973	6	81398	12	84970	12	303610	20
<b>74039</b>	12	<b>81414</b>	12	84988	12	303628	19
74047	12	81422	12	84996	12	303636	20
74054	12	81448	13	<b>85019</b>	12	<b>304519</b>	20
74062	12	81471	12	85027	12	304535	20
<b>74567</b>	7	81489	12	85035	12	<b>305367</b>	19
74575	7	<b>81505</b>	13	85043	12	305375	19
74583	7	81513	12	85068	12	<b>325134</b>	17
<b>80044</b>	14	81521	12	<b>85480</b>	12	325142	17
80051	14	81539	12	<b>85506</b>	12	325159	17
80069	14	81547	13	85514	12	325167	17
80077	14	81554	12	85548	12	325175	17
80085	14	81570	12	85563	12	325183	17
80093	14	81596	12	<b>85746</b>	13	325191	17
<b>80101</b>	14	<b>81612</b>	12	85753	13	325209	17
80127	14	81620	12	85761	13	<b>372961</b>	10
80168	14	81638	12	85787	13	<b>373894</b>	10
80176	14	<b>82321</b>	14	<b>85803</b>	13	373902	10
80184	14	82339	14	85811	13	373969	9
80192	14	82396	14	85837	13	<b>421651</b>	22
<b>80200</b>	14	<b>82412</b>	14	85860	13	421677	22
80226	14	82420	14	85886	13	421693	22
80242	14	82438	14	85894	13		
<b>80358</b>	14	82453	14	<b>85902</b>	13		
<b>80853</b>	13	82479	14	85910	13		





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A large, empty grid of small squares, intended for taking notes. The grid covers most of the page area below the header and above the footer. There is a solid orange vertical bar on the left side of the page, partially overlapping the grid.

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AMF CAD data are transmitted to sub-assemblies with active links. This feature can be exploited by the CAD systems Solid Works, Unigraphics, Inventor and Catia V5.

**Further advantages:**

- ▶ Complete transmission of the structure tree, including all accessories, with all CAD systems!
- ▶ When parts lists are generated, the article designations from the structure tree are automatically incorporated.
- ▶ Ordering procedures can thus be initiated directly.
- ▶ In addition, sample functions are transmitted which
  - a) increase computer speed and
  - b) simplify the job of the tool designer.
- ▶ When they are not needed, the sample functions can be suppressed

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