



VAP SOUTH AFRICA (PTY) LTD

We supply components to the Tool and Die,
Plastic Injection Moulding and
Press Tooling Industry.

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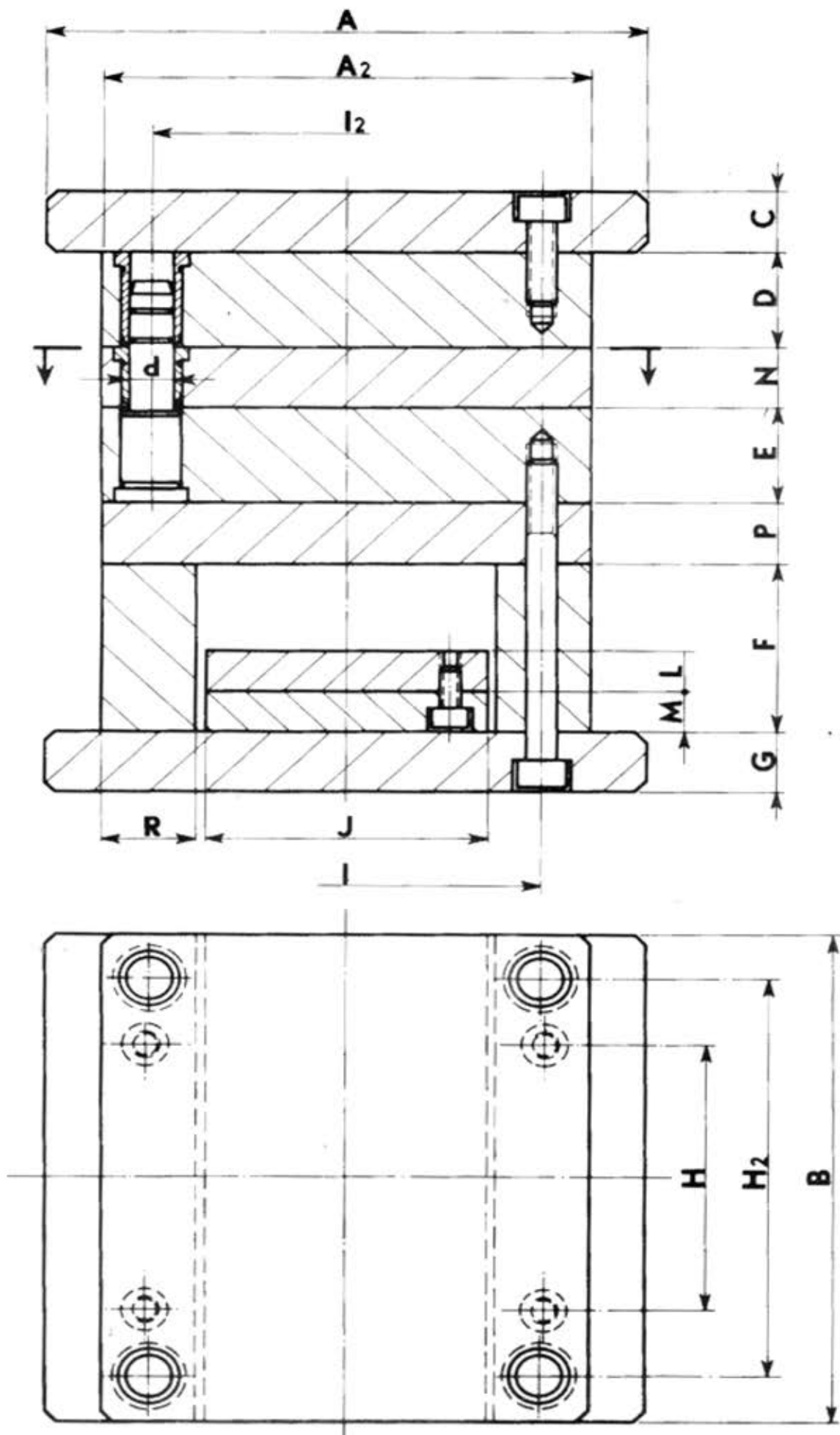
POLISHING & DIAMOND PASTE – EDM, Mould Maker, Die Maker, Ceramic Stone and Polishing

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DIE SET LAYOUT

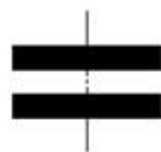
DIE



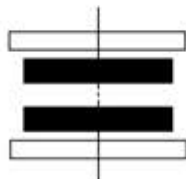


DIE SET SPEC SHEET

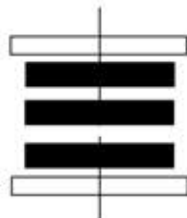
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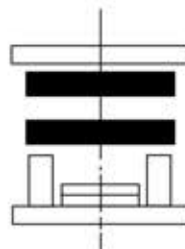
Nº 1



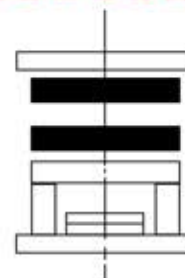
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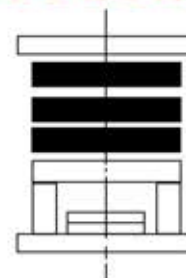
Nº 3



Nº 4



Nº 5



Nº 6

MATERIAL : D N E - CAVITY PLATES 2312 off the shelf. 2311 , 2344, and 2316 Available (2weeks lead time)

: C G P F L M - Mild Steel C-G = Back Plates P = SUPPORT PLATE F = RISERS L+M = EJECTOR PLATES

TYPE	A	A2	B	H	H2	I	I2	J	D-N-E	F	R	C-G	P	L	M	d
130 x 145	160	130	145	79	119	104	104	75	22-27-36 46-56	50-60-70	26	18	18 22	12	14	12
145 x 195	175	145	195	117	165	119	115	90	22-27-36 46-56	50-60-70	26	22	27	12	16	16
175 x 175	210	175	175	90	140	149	140	120	22-27-36 46-56	50-60-70-90	26	22	22 27	12	18	16
175 x 260	210	175	260	176	225	149	140	120	22-27-36 46-56	50-60-70	26	22	27	12	18	16
196 x 196	246	196	196	100	152	154	145	118	22-27-36 46-56	56-66-76	38	22	27	12	18	18
215 x 215	250	215	215	130	180	183	180	148	22-27-36 46-56	50-60-70	32	22	22 27	12	18	16
215 x 295	250	215	295	202	255	183	175	148	22-27-36 46-56	60-70	32	22	27	12	18	18
246 x 246	296	246	246	148	203	209	203	170	22-27-36 46-56	66-76-86	36	27	27	12	18	18
246 x 296	296	246	296	186	244	200	200	158	22-27-36 46-56	76	43	27	27	12	18	22
296 x 296	346	296	296	186	244	250	250	208	27-36-46 56	76-86-96	43	27	27	12	18	22
245 x 360	280	245	360	260	318	209	203	170	22-27-36 46-56	70-80-90	36	27	27	12	18	18
346 x 346	396	346	346	224	294	294	294	258	22-27-36 46-56	56-66-76 96	43	27 36	27 36	17	22	22
396 x 396	446	396	396	230	324	324	324	268	22-27-36 46-56	56-66-76 96	62	27 36	27 36	17	22	30

MAX - 500 X 700

FULL SPEC SHEETS ARE AVAILABLE ON EACH SIZE

130x145 up to 296x296 is available off the shelf. Special size die set can be made up, 2 week delivery time.

ORDER : VAP DIE SET - NO. 6 - SIZE - D N E P F

EXAMPLE : VAP DIE SET - NO. 6 - 246x246 - 36 22 46 27 76

COMES WITH EXTRA STRIPPER PLATE

ORDER : VAP DIE SET - NO.4 - SIZE - D E F

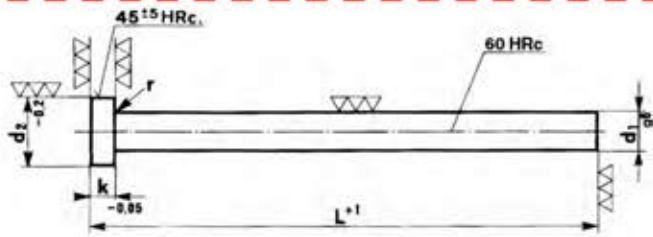
EXAMPLE : VAP DIE SET - NO.4 - 145x195 - 27 36 50

HAS NO SUPPORT PLATE



EJECTOR PINS

A & AH



A — BLACK NITRIDED PIN ●

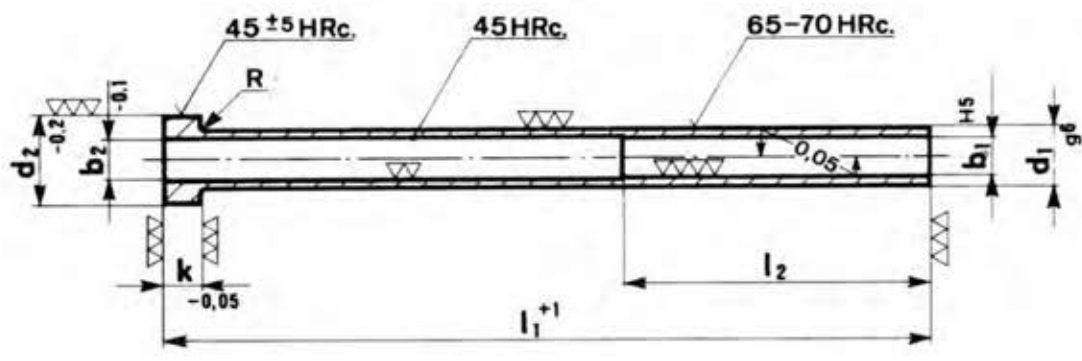
AH — THRU HARDENED PIN ●

D1	D2	K	R	Total Length										
				100	125	160	200	250	315	400	500	630	800	1000
1					●	●	●●							
1.5 & 1.6	3	1.5	0.2	●	●	●	●●							
2 & 2.2	4	2	0.2	●	●	●	●●	●●	●●	●				
2.5 & 2.7	5	2	0.3	●	●	●	●●	●●	●●					
3	6	3	0.3	●	●	●	●●	●●	●●	●	●			
3.2	6	3	0.3	●	●	●	●●	●	●					
3.5	7	3	0.3	●	●	●●	●●	●	●●					
4	8	3	0.3	●	●	●	●●	●●	●●	●●	●		●	●
4.2	8	3	0.3	●	●	●	●	●	●					
4.5	8	3	0.3	●●	●	●●	●	●	●					
5	10	3	0.3	●	●●	●	●●	●●	●●	●	●	●		
5.2	10	3	0.3	●	●	●	●	●	●	●	●			
5.5	10	3	0.3	●●	●	●●	●	●	●●	●	●	●		
6	12	5	0.5	●	●●	●	●●	●●	●●	●●	●	●	●	●
6.2 & 6.5	12	5	0.5	●	●	●	●	●	●	●	●	●		
7	12	5	0.5	●	●	●	●●	●●	●	●	●	●	●	
7.5	12	5	0.5			●	●							
8	14	5	0.5	●	●	●	●●	●●	●●	●	●●	●●	●●	●
8.2	14	5	0.5		●	●	●	●	●	●				
8.5	14	5	0.5	●	●	●	●	●●	●	●	●	●		
9	14	5	0.5			●●	●●	●	●		●			
9.5	14	5	0.5		●	●								
10	16	5	0.5	●	●	●●	●●	●●	●●	●●	●●	●●	●●	●
10.2	16	5	0.5		●	●	●	●						
10.5	16	5	0.5		●	●	●	●	●	●				
11	16	5	0.5				●	●	●					
12	18	7	0.8	●	●●	●●	●●	●●	●●	●●	●●	●●	●	●
12.2	18	7	0.8			●		●						
12.5	18	7	0.8			●	●	●	●	●				
13	18	7	0.8			●	●	●●	●●		●			
14	22	7	0.8	●	●	●●	●	●	●	●	●			
15	22	7	0.8				●	●						
16	22	7	0.8	●	●	●	●	●●	●	●	●	●		
18	24	7	0.8		●	●	●	●	●	●	●			
20	26	8	1		●	●	●	●	●	●	●			
25	32	10	1					●	●	●	●			
32	40	10	1							●				



SLEEVE EJECTOR

ETNT



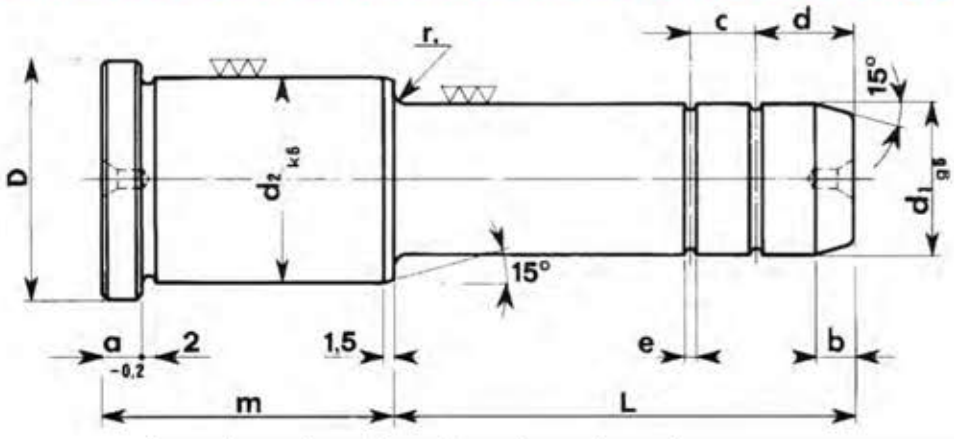
b1	d1	b2	d2	k	l2	R	l1							
							75	100	125	150	175	200	225	250
2	4	2.4	8	3	35	0.3	●	●	●	●				
2.2	4	2.4	8	3	35	0.3		●	●	●				
2.5	5	3	10	3	35	0.3		●	●	●				
2.7	5	3	10	3	45	0.3					●			
3	5	3.3	10	3	45	.03		●	●	●	●			
3.2	5	3.5	10	3	45	0.3		●	●	●				
3.5	6	3.8	12	5	45	0.5		●	●	●	●			
4	6	4.3	12	5	45	0.5	●	●	●	●	●	●		
4.2	8	4.8	14	5	45	0.5		●	●	●	●			
4.5	8	4.8	14	5	45	0.5		●	●					
5	8	5.3	14	5	45	0.5		●	●	●	●	●	●	●
5.2	8	5.5	14	5	45	0.5		●	●	●				
5.5	9	5.8	16	5	45	0.5		●	●	●				
6	10	6.3	16	5	45	0.5		●	●	●	●	●	●	●
6.2	10	6.5	16	5	45	0.5		●	●	●	●	●	●	●
6.5	10	6.7	16	5	45	0.5			●	●	●			
8	12	8.3	20	7	45	0.8	●	●	●	●	●	●	●	●
8.2	12	8.5	20	7	45	0.8		●	●	●	●	●	●	
10	14	10.3	22	7	50	0.8	●	●	●	●	●	●	●	●
12	16	12.5	22	7	50	0.8		●	●	●	●	●	●	●

Order: Sleeve Ejector ETNT / b1 x l1 — Example: Sleeve ejector ETNT / 6 x 175



GUIDE PIN

GC - GP



DME - GP

d1	d2	D	a	b	d	M	L											
							18	26	36	46	56	66	76	86	96	106	126	
12	18	22	6	4	10	26		•	•		•							
						36			•									
						46	•	•		•								
						56	•	•	•		•							
16	24	28	9	4	10	26		•	•	•		•		•				
						36		•	•	•		•						
						46			•		•		•					
						56			•		•		•					
						66							•					
						76							•			•		
20	28	32	9	4	10	26		•	•	•		•		•				
						36		•	•			•				•		
						46			•	•		•					•	
						56			•		•		•					
						66				•		•		•		•		
						76						•				•		
						86										•		
																	•	
24	32	36	9	6	12	26		•	•			•		•		•		
						36		•	•		•		•			•		
						46				•		•		•		•		
						56			•		•		•		•		•	
						66						•		•		•		
						76								•				
						86									•		•	
						96										•		
						106											•	

Order: Guide Pins GC / d1(d2) x m x L - Example GC 24(32) x 36 x 106



GUIDE PIN

GC - GP

VAP - GC

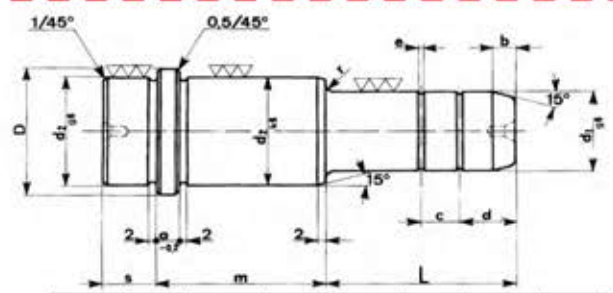
d1	d2	D	a	b	c	d	e	M	L														
									14	17	26	36	45	50	65	70	90	100	125	150	175	200	
10	14	17	4	4	8	10	1	17			•	•											
									26	•													
									36	•													
									46		•												
									50		•	•											
12	16	20	4	4	7	10	1	17		•	•	•	•			•							
									26			•	•	•			•		•				
									34			•	•	•			•		•				
									44			•	•	•			•						
									54			•	•	•			•		•				
16	20	24	4	4	8	10	1	20		•	•	•	•			•			•				
									26			•	•	•			•		•		•		
									34			•	•	•			•		•		•		
									44			•	•	•				•	•		•	•	
									54			•	•		•		•	•		•	•		
									74				•		•		•	•		•	•		
18	25	30	6	6	10	12	1	20			•	•	•			•	•		•				
									26			•	•	•			•		•		•		
									34				•	•			•		•		•		
									44					•			•	•		•	•		
									54				•		•		•		•		•	•	
									74				•		•		•		•		•	•	
22	30	35	6	6	10	15	1.5	26				•	•			•		•	•	•			
									34				•	•			•		•	•	•	•	
									44					•			•		•	•	•	•	
									54				•		•		•		•	•	•	•	
									64						•		•		•	•			
									74				•		•		•		•		•	•	
30	40	45	8	7	12	15	1.5	26				•	•			•		•	•				
									34				•	•			•		•	•	•		
									44					•			•	•		•	•		
									54				•		•		•		•	•	•		
									74				•		•		•		•	•	•		
40	50	54	10	8	15	20	1.5	70							•					•			

Order: Guide Pins GC / d1(d2) x m x L - Example GC 18(25) x 26 x 125



LOCATED GUIDE PIN

GC2 - GPS



MATERIAL: 1,7264
TREATMENT: Carbonitrided prof. 0.6
HARDNESS: 60 - 62 HRc

VAP - GC2

d1	d2	D	a	b	c	d	s	M	L							
									26	36	45	50	65	70	100	
12	16	20	4	4	7	10	12	26	•		•					
								26	•		•					
16	20	24	4	4	8	10	12	34		•						
								44		•						
								54		•						
								54		•						
18	25	30	6	6	10	12	14	34			•			•		
								44			•			•		
								54								
22	30	35	6	6	10	15	14	34								
								44				•			•	
								54				•			•	•
								64				•			•	•

DME - GPS

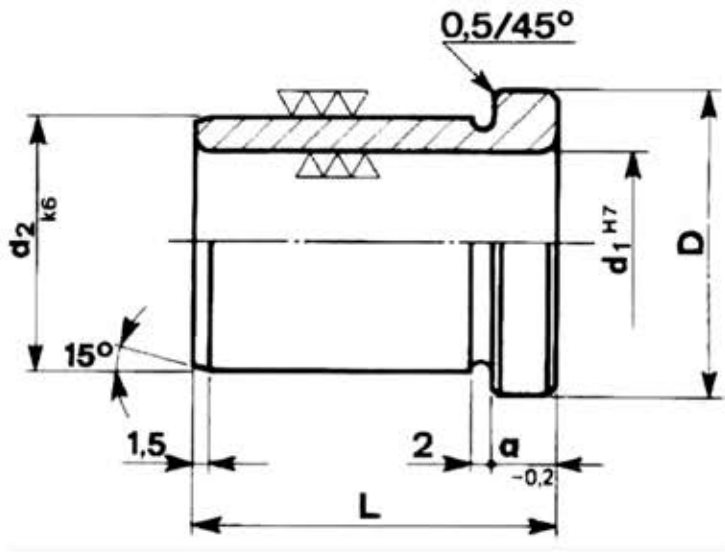
d1	d2	D	a	s	M	L									
						26	36	46	56	66	76	86	96	106	126
16	24	28	6	9	26					•		•			
					36		•			•		•			
					46			•		•					
					56				•		•				
					66						•				
					76								•		
20	28	32	6	9	26				•			•			
					36		•			•			•		
					46			•			•			•	
					56				•			•		•	
					66						•				
					76								•		
24	32	36	6	9	26	•				•				•	
					36		•				•			•	
					46			•				•			
					56				•			•		•	
					66						•			•	
					76								•		
24	32	36	6	9	86							•			
					86						•				

Order: Located Guide Pins GC2 / d1(d2) x m x L - Example GC2 16 (20) x 34 x 36



GUIDE BUSH

CV - GB



MATERIAL: 1,7264
TREATMENT: Carbonitrided prof. 0.6
HARDNESS: 60 - 62 HRc

VAP - CV

d1	d2	D	a	L									
				17	21	26	35	45	55	65	75	95	
10	14	17	4	•		•	•	•					
12	16	20	4	•	•	•	•	•	•				
16	20	24	4		•	•	•	•	•	•	•	•	•
18	25	30	6		•	•	•	•	•	•	•	•	•
20	30	35	6				•		•				
22	30	35	6			•	•	•	•	•	•	•	•
30	40	45	8			•	•	•	•	•	•	•	•
40	50	54	10							•		•	•

DME - GB

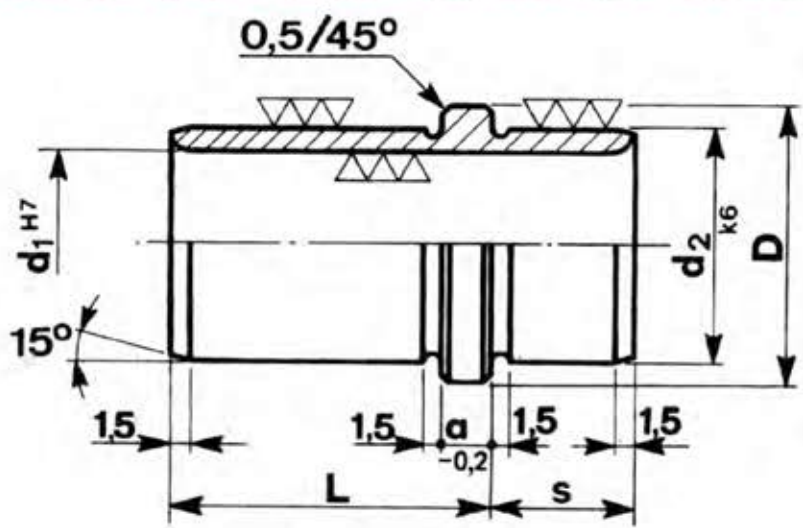
d1	d2	D	a	L									
				26	36	46	56	66	76	86	96		
12	18	22	6	•	•	•	•						
16	24	28	6	•	•	•	•		•				
20	28	32	6	•	•	•	•	•	•				
24	32	36	6	•	•	•	•	•	•	•	•	•	•

Order: Guide Bushes CV / d1(d2) x L - Example CV 16(20) x 35



LOCATED GUIDE BUSHES

CV2 - GBS



MATERIAL: 1,7264
TREATMENT: Carbonitrided prof. 0.6
HARDNESS: 60 - 62 HRc

VAP - CV2

d1	d2	D	a	s	L									
					17	21	26	35	45	55	65	75	95	
12	16	20	4	8	•		•	•	•	•				
16	20	24	4	12		•	•	•	•	•		•		
18	25	30	6	17		•	•	•	•	•		•	•	
22	30	35	6	17		•	•	•	•	•		•	•	
30	40	45	8	21				•		•		•		

DME - GBS

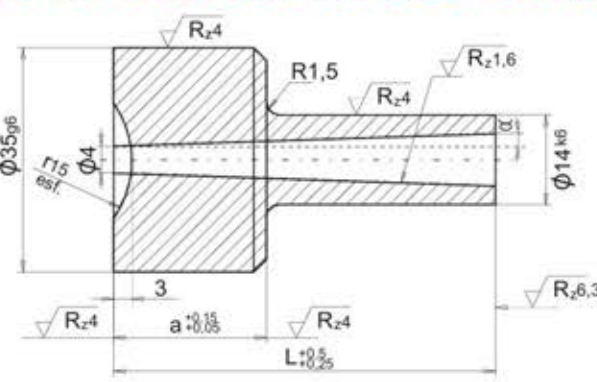
d1	d2	D	a	s	L									
					26	36	46	56	66	76	86	96	106	
12	18	22	6	6	•	•	•	•						
16	24	28	6	9	•	•	•	•	•					
20	28	32	6	9	•	•	•	•	•	•	•			
24	32	36	6	9	•	•	•	•	•	•	•	•	•	•

Order: Located Guide Bushes CV2 / d1(d2) x L - Example CV2 18(25) x 26



SPRUE BUSH 14 DIA

B3



a	L							
	2 degree taper						1 degree	
	27	36	46	51	60	70	70	100
12	●	●	●				●	●
24				●	●	●		●

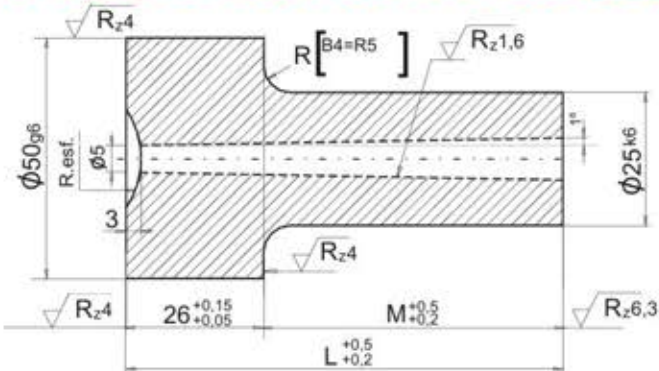
SOFT SPRUE BUSH

Order: Sprue Bush B3 / a x L - Example B3 24 x 100



SPRUE BUSH 25 DIA

B4



SOFT SPRUE BUSH - 21-23 HRc

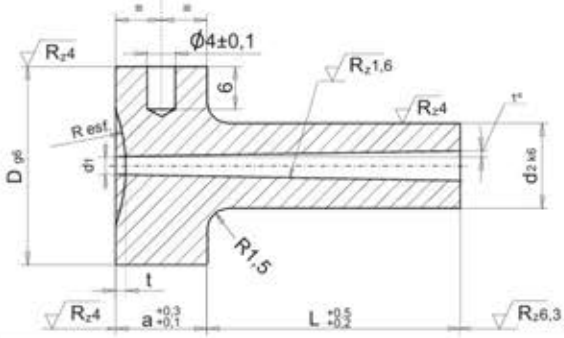
M	26.5	36.5	46.5	56.5	66.5	76.5	86.5	96.5	106.5	116.5	126.5	136.5	156.5
L	52.5	62.5	72.5	82.5	92.5	102.5	112.5	122.5	132.5	142.5	152.5	162.5	182.5

Order: Sprue Bush B4 / L - Example B4 162.5



SPRUE BUSH 12 & 18 DIA

B7



HARDENED SPRUE BUSH - 58-60 HRc

Order: Sprue Bush B7 / D x d1 x L

Example B7 28 x 3.5 x 56

D	a	d2	R	t	d1	L								
						22	27	36	46	56	76	96	116	
28	13	12	15.5	1.5	2.5	●	●	●	●					
					3.5	●	●	●	●		●			
38	18	18		3	3		●	●	●	●	●	●	●	
					4		●	●	●	●	●	●	●	



AIR VALVE

VA

DESCRIPTION	A	B	C	D	E	H
VA05—053712	5	3.7	12	1.5	4	7
VA06 - 065212	6	5.2	12	1.5	4	7
VA08 - 086512	8	6.5	12	1.5	4	7
VA10 - 100812	10	8	12	2	8	7
VA12 - 121012	12	10	12	2.5	10	7
VA16 - 161320	16	13	20	3	12	12
VA20 - 201720	20	17	20	3.5	5	12



Order: Air Valve VA / A - Example VA 08

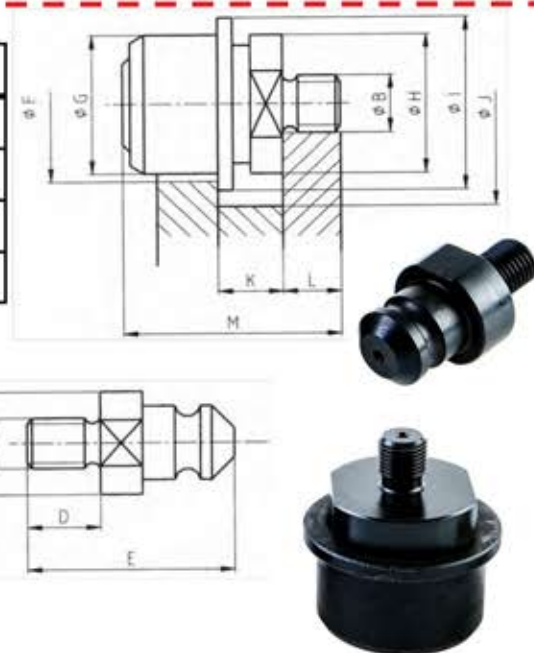
Maximum working pressure 8 Bars. Manufactured from stainless steel. High airflow advantage.



EJECTOR SYSTEMS

RA

MALE EJECTOR COUPLERS					DESCRIPTION	
REF	A	C	D	E	COUPLER SET	TONNAGE
RA 301	M10 x 1.5	22.8	20	45.5	RA 301 + 302	1500 kg
RA 401	M14 x 2.0	25.8	20	55	RA 401 + 402	2400 kg
RA 411	M16 x 2.0	35	25	68	RA 411 + 412	3200 kg



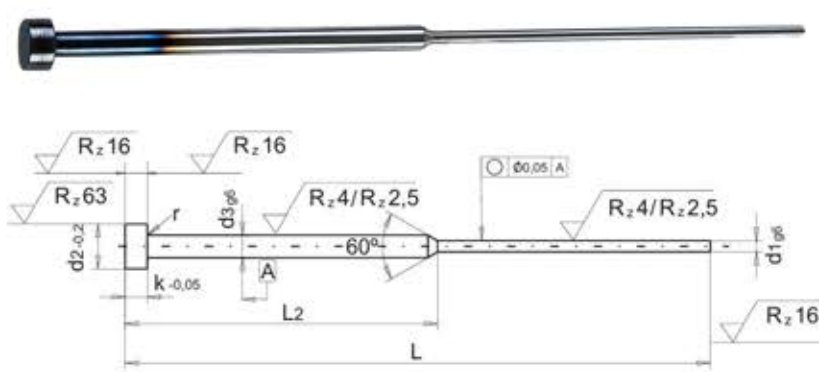
FEMALE EJECTOR COUPLER									
REF	B	F	G	H	I	J	K	L	M
RA 302	M16 x 1.5	34	32	32	39	43	9	15	42.5
RA 402	M16 x 1.5	40	38	38	48	53	13	15	52
RA 412	M16 x 1.5	58	56	52	65	70	17	18	68



STEPPED EJECTOR

EC

d1	d2	d3	k	100	125	160	200	250
				L2	L2	L2	L2	L2
0.8	4	2	2		●	●		
1	4	2	2	●	●	●	●	
1.2	4	2	2		●	●		
1.5	6	3	3	●	●	●	●	
2	6	3	3	●	●	●	●	●
2.5	6	3	3	●	●	●	●	●



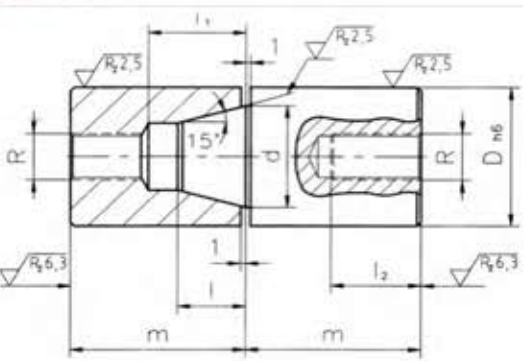
Stepped Ejector Pin EC / d1 x L - EC 2.5 x 250



TAPERED INTERLOCKS

UC

D	d	R	I	I1	I2	M
20	16	M8	10	13	15	22
24	18	M8	10	15	16	27
30	22	M10	14	20	18	36

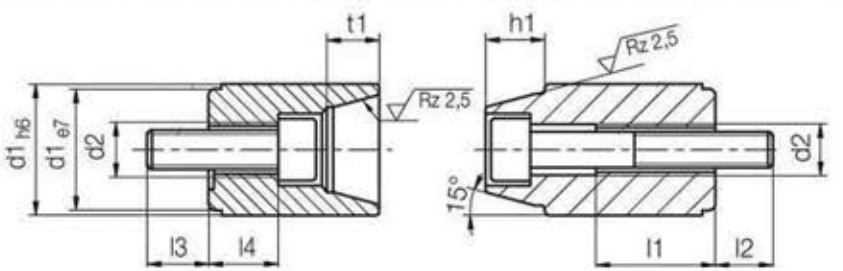


Order: Tapered Interlock UC / D - Example UC 24
SOLD AS A SET – MALE AND FEMALE

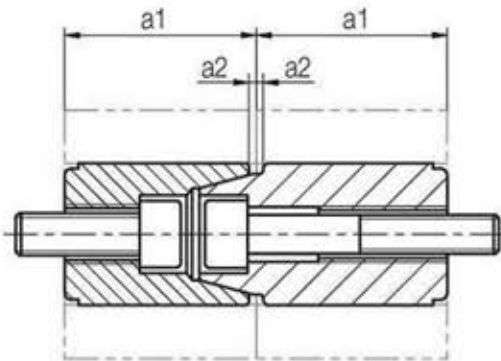


TAPERED INTERLOCKS

TL



D1 x L	a1	D2	I3	I2	I1
12 x 34	17	M4	8.5	8	9.6
14 x 34	17	M5	8	7.5	12.4
16 x 34	17	M5	8	7.5	12.4
20 x 54	27	M8	9.5	12	19.7
25 x 54	27	M8	11	11	19.7
26 x 54	27	M8	11	11	19.7
30 x 72	36	M10	15	15	25
32 x 72	36	M10	15	15	25



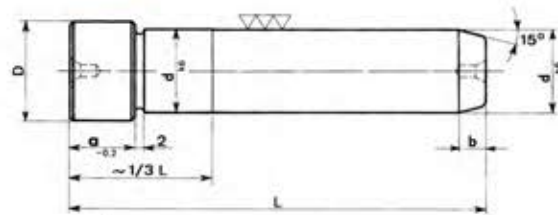
Order: Tapered Interlock TL / D1 x L - Example 16 x 34
SOLD AS A SET – MALE AND FEMALE



ANGLE PINS

G2

d	D	a	B	L													
				51	65	75	85	95	105	115	125	140	170	200	250	315	
10	12	8	3	•		•	•	•	•								
12	15	8	4		•	•	•	•	•	•							
14	17	10	4						•		•	•	•				
16	19	12	5					•	•	•	•	•	•	•			
18	22	14	6				•		•		•	•	•	•			
20	24	15	6				•		•		•	•	•	•	•		
25	30	18	7										•	•	•		
30	35	20	7												•	•	



MATERIAL: 1.7264
EXAMPLE: Carbonitrided prof. 0,6
HARDNESS: 60 - 62 HRc.

Angle Pin G2 / d x L - Example G2 16 x 170

zap



SPRING LOADED BALL STOP

POS

D	L	S	D	PRESSURE -approx N
M4	9	0.8	2.5	4-10
M6	14	1	3.5	9-13
M8	16	2	5	15-30
M10	19	2	6	20-40
M12	22	3	8	30-55
M16	24	3.5	10	65-125



Order: Spring Loaded Ball Stop POS / D - Example POS M12

zap



SPRUE BUSH REAMER

ESC



a	b	c	d1	d2	d3	e	∞
40	100	140	3	10	8	6.5	2 degree
40	150	190	5	15.5	13	10	2 degree
40	120	160	3	7	6	5	1 degree
40	206	246	5	12	12	9	1 degree

Order: Sprue Bush Reamer ESC / d1 x d2 - Example ESC 5 x 12

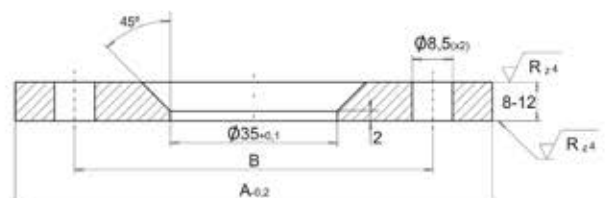
zap



LOCATING RING

LR

A	90	100	110	120	125
B	70	75	80	84	86
H	8mm	12mm	12mm	12mm	12mm



Order: Locating Ring LR / D - Example LR 100

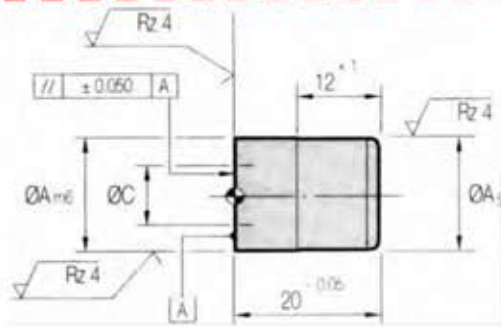


DATE STAMP + INSERT

FA

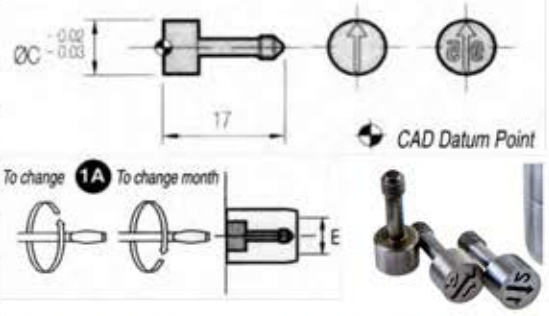
Date Stamp: This is a permanent date stamp where only the central year insert is changed. The month is changed by using a screwdriver. Completely stainless.

Date Insert: Due to the fact that the insert is adjustable / removable from the front of the mould, there is no need to remove the tool from the machine or disassemble the mould.



Months + Arrow and Year	YEAR STAMP	A	C	E	L
FA 063212	FA 063205—IMPORT	6	3.2	4	20
FA 084712	FA 084706—IMPORT	8	4.7	6	20
FA 105712	FA 105708—IMPORT	10	5.7	8	20
FA 126712	FA 126708—IMPORT	12	6.7	10	20
FA 168712	FA 168708—IMPORT	16	8.7	12	20

ARROW ONLY	ARROW + YEAR	C	L
IA 3217SF	IA 3217	3.2	17
IA 4717SF	IA 4717	4.7	17
IA 5717SF	IA 5717	5.7	17
IA 6717SF	IA 6717	6.7	17
IA 8717SF	IA 8717	8.7	17



NON-CHANGABLE			
Dimensions	Month Outside Year & Arrow	Years Outside	Months Outside
6dia x 10	●	●	●
8dia x 10	●	●	●
10dia x 10	●	●	●
12dia x 12	●	●	●
16dia x 14	●	●	●
20dia x 14	●	●	●
NON-INTERCHANGABLE			
THE INSERT DOES NOT COME OUT			

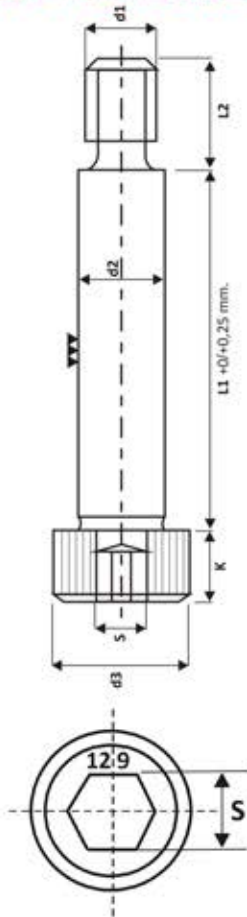


Interchangeable Date Stamp	
Month Outside	INSERT YR + Arrow
Month+YR - 6dia x 8	Insert - 3.1dia x 8
Month+YR - 8dia x 10	Insert - 4.4dia x 10
Month+YR - 10dia x 12	Insert - 5.2dia x 12
Month+YR - 12dia x 14	Insert - 6.2dia x 14
Month+YR - 16dia x 14	Insert - 8.2dia x 14
Month+YR - 20dia x 16	Insert - 11dia x 16
INTERCHANGABLE INSERT	
CHANGE YEARLY	



SHOULDER BOLT

SB



D3	10	13	16	18	24	30
K	4.5	5.5	7.0	9.0	11	14
L2	9.75	11.25	13.25	16.40	18.40	22.40
D1	M5	M6	M8	M10	M12	M16
D2	6	8	10	12	16	20
L1 - 12		•				
L1 - 16	•	•	•			
L1 - 20	•	•	•			
L1 - 25	•	•	•	•		
L1 - 30	•	•	•	•		
L1 - 35	•	•	•	•		
L1 - 40	•	•	•	•	•	
L1 - 45				•		
L1 - 50		•	•	•	•	
L1 - 55			•			
L1 - 60		•	•	•	•	•
L1 - 70			•	•		
L1 - 80			•	•	•	
L1 - 100				•	•	
L1 - 110					•	
L1 - 120					•	

Order: Shoulder Bolt SB / D2 x L1 - Example SB 12 x 55

POLYURETHANE ROD

A high-performance polyether-based elastomer

Specific Gravity @ 25°C

Hardness 90[°]A (±3)

Tensile Strength MPa 42.0

Elongation 420%

100% Modulus MPa 9.3

Resilience 52%

300% Modulus MPa 17.8

Recommended Temp -15 to +80

Angle Tear Strength (Die C) (kNm) 85

DIN Abrasion Resistance 10N (mm³) - 55

DIN Abrasion Resistance 5N (mm³) - 18



22 dia x 500mm

30 dia x 500mm

40 dia x 500mm

50 dia x 500mm

60 dia x 500mm

70 dia x 500mm

80 dia x 500mm

MOULD CLAMPS

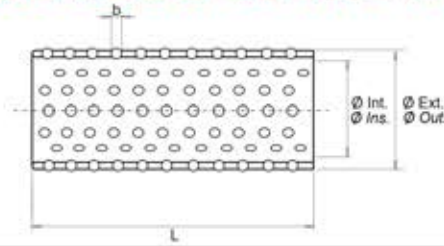


CLAMP	STUD	HEX NUT T-NUT
M12 x 100	M12	M12
M16 x 110	M16	M16
M16 x 130	M16	M16
M16 x 150	M16	M16
M20 x 180	M20	M20
M24 x 240	M24	M24
M30 x 270	M30	M30



BRASS BALL CAGE

BBC



ID	OD	b	L						
			55	65	75	85	95	105	120
15	21	3							
16	22	3							
18	24	3					●		
19	25	3					●		
24	30	3			●			●	
25	31	3						●	
30	38	4					●	●	
32	40	4					●	●	●
40	48	4						●	
42	50	4						●	
50	58	4							
52	60	4							

Order: Brass Ball Cage BBC / d x D x L- Example LR 100



CHEESE HEAD PUNCH – HSS

PPC



Hardened, tempered and fully ground finished

D1 - 64+-2 Hrc

Head - 50+-5 Hrc



d1	d2	T	l1
3	5	3	71 - 80 - 100
4	6	3	71 - 80 - 100
5	8	5	71 - 80 - 100
6	9	5	71 - 80 - 100
8	11	5	71 - 80 - 100
10	13	5	71 - 80 - 100
12	14	5	71 - 100
13	16	5	100
16	19	5	100
20	24	5	100

Order: Cheese Piercing Punch PPC / d1 x l1 - Example PPC 13 x 100



PIERCING PUNCH – HSS

PP

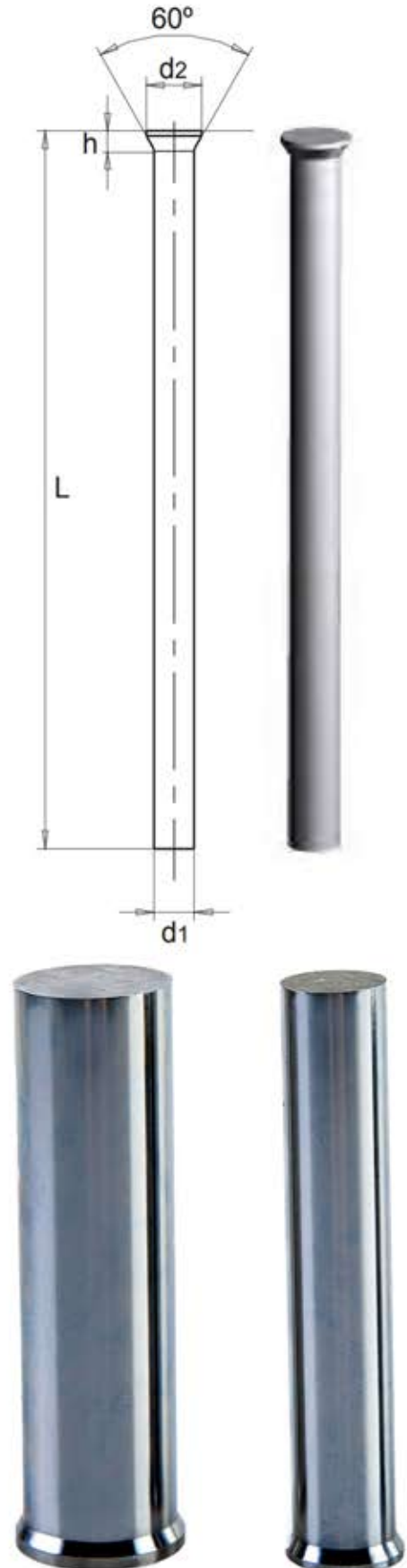
d1	d2	K	L
0.5	0.9	0.2	71
0.6	1.0	0.2	71
0.7	1.3	0.2	71
0.8	1.4	0.4	71
0.9	1.6	0.4	71
1.0 - 1.1	1.8	0.5	71 - 80 - 100
1.2 - 1.3	2.0	0.5	71 - 80 - 100
1.4 - 1.5	2.2	0.5	71 - 80 - 100
1.6 - 1.7	2.5	0.5	71 - 80 - 100
1.8 - 1.9	2.8	0.5	71 - 80 - 100
2.0	3.0	0.5	71 - 80 - 100
2.1 - 2.2	3.2	0.5	71 - 80 - 100
2.3 - 2.5	3.5	0.5	71 - 80 - 100
2.6 - 2.9	4.0	0.5	71 - 80 - 100
3.0 - 3.4	4.5	0.5	71 - 80 - 100
3.5 - 3.9	5.0	0.5	71 - 80 - 100
4.0 - 4.4	5.5	0.5	71 - 80 - 100
4.5 - 4.9	6.0	0.5	71 - 80 - 100
5.0 - 5.4	6.5	0.5	71 - 80 - 100
5.5 - 5.9	7.0	0.5	71 - 80 - 100
6.0 - 6.4	8.0	0.5	71 - 80 - 100
6.5 - 7.4	9.0	1	71 - 80 - 100
7.5 - 8.4	10.0	1	71 - 80 - 100
8.5 - 9.4	11.0	1	71 - 80 - 100
9.5 - 10.4	12.0	1	71 - 80 - 100
10.5 - 11.4	13.0	1	71 - 80 - 100
11.5 - 12.4	14.0	1	71 - 80 - 100
12.5 - 13.4	15.0	1	71 - 80 - 100
13.5 - 14.4	16.0	1	71 - 80 - 100
14.5 - 15.4	17.0	1.5	71 - 80 - 100
15.5 - 16.4	18.0	1.5	71 - 80 - 100
16.5 - 17.4	19.0	1.5	71 - 80 - 100
17.5 - 18.4	20.0	1.5	71 - 80 - 100
18.5 - 19.4	21.0	1.5	71 - 80 - 100
19.5 - 20.0	22.0	1.5	71 - 80 - 100

Hardened, tempered and fully fine ground finished

D1 - 62-64 Hrc

Head - 45+-5 Hrc

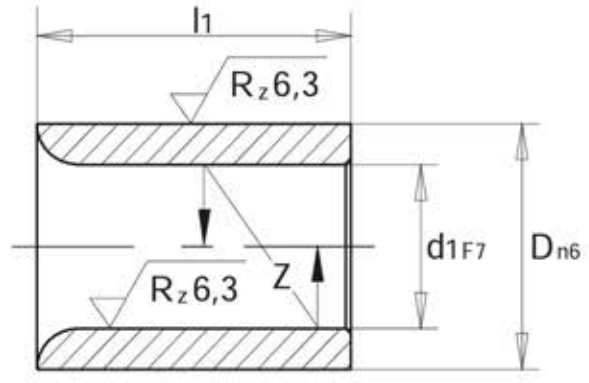
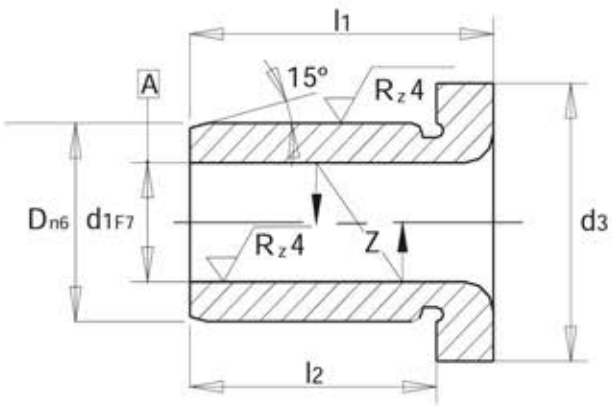
Also available in HWS (imported)



Order: Piercing Punch PP / d1 x L - Example PP 12.5 x 100



DRILL BUSHES HEADED & HEADLESS



d1	D	d3	SHORT - HS		LONG - HL		HEADLESS	
			l1	l2	l1	l2	SHORT - HLS	LONG - HLL
0.9 - 1.0	3	6	6	4	9	7	6	9
1.1 - 1.8	4	7	6	4	9	7	6	9
1.9 - 2.6	5	8	6	4	9	7	6	9
2.7 - 3.3	6	9	8	5.5	12	9.5	8	12
3.4 - 4.0	7	10	8	5.5	12	9.5	8	12
4.1 - 5.0	8	11	8	5.5	12	9.5	8	12
5.1 - 6.0	10	13	10	7	16	13	10	16
6.1 - 8.0	12	15	10	7	16	13	10	16
8.1 - 10.0	15	18	12	9	20	17	12	20
10.1 - 12.0	18	22	12	9	20	17	12	20
12.1 - 15.0	22	26	16	12	28	24	16	28
15.1 - 18.0	26	30	16	12	28	24	16	28
18.1 - 22.0	30	34	20	15	36	31	20	36
22.1 - 26	35	39	20	15	36	31	20	36
26.1 - 30	42	46	25	20	45	40	25	45

HEADED SHORT - HS

HEADED LONG - HL

HEADLESS SHORT - HLS

HEADLESS LONG - HLL

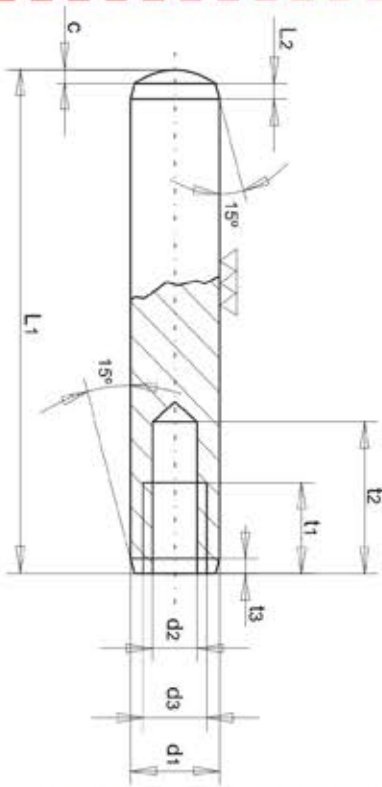
Order: Headed / d1 x l2 - Example Headed Short HS 8.5

Order: Headless / d1 x l2 - Example Headless Long HLL 10



EXTRACTABLE DOWEL PIN

EX



D1 (m6)	5	6	8	10	12	16
THREAD	m3	m4	m5	m6	m6	m8
L1						
10	●					
20	●					
30	●	●	●	●	●	
40	●	●	●	●	●	●
50	●	●	●	●	●	
60		●	●	●	●	●
70		●	●	●	●	
80		●	●	●	●	●
90			●	●	●	
100			●	●	●	●
120				●	●	

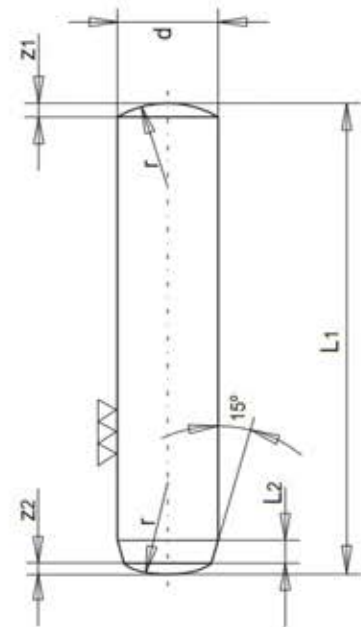
Order: Dowel Pin EX / d x L1 - Example EX 10 x 40



DOWEL PIN

D

D (m6)	3	4	5	6	8	10	12	16	20
10	●	●	●						
12	●	●	●	●					
16	●	●	●	●	●				
18			●		●				
20	●	●	●	●	●	●			
24	●	●	●	●	●	●			
28		●	●	●	●	●			
30		●	●	●	●	●	●		
32			●	●	●	●	●		
36		●	●	●	●	●	●		
40			●	●	●	●	●	●	
45				●	●	●	●		
50		●		●	●	●	●	●	
55				●	●	●	●		●
60				●	●	●	●	●	●
70				●	●	●	●	●	●
80				●	●	●	●	●	●
90				●	●	●	●		
100				●	●	●	●	●	
120					●	●	●	●	





POLISHING STONES



WE STOCK THE EDM RANGE 13mm x 6mm x 150mm

120grit, 180 , 220 , 320 , 400 , 600grit

SUPER CERAMIC STONES 1mm x 6mm x 100/150mm

120,220,300, 400, 600, 800, 1000 & 1200 grit

DIE MAKER , MOULD MAKER , OIL TREATED AND ARE AVAILABLE TOO.



DIAMOND PASTE



Diamond Paste 1 micron up to 40 micron

1 3 5 7 10 14 20 28 40

1 micron - finest (mirror finish)

40 micron being our roughest

10g High Concentration



SPANJAARD

THE ESSENTIALS FOR PRODUCTION & TOOLROOM

MOULD PROTECTOR GREEN AND CLEAR

SILICONE SPRAY 300ml

MOULD RELEASE—NON SILICONE

ENGINEERING MARKING BLUE

FMG-X Spray and Grease

RED RUBBER GREASE - 500g

T- CUTTING FLUID

SPARK

HT GREASE 777 - 500g

COPPER COMPOUND - 500g

RED RUBBER GREASE - 500g

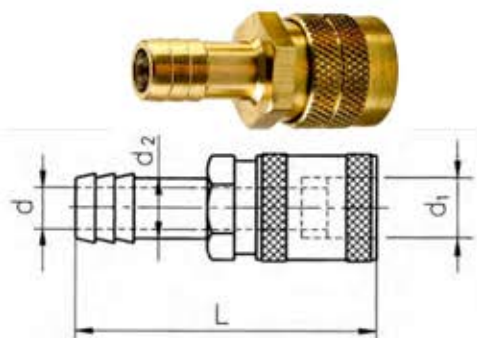




QUICK RELEASE COUPLER

QRC

REF	a	d1	d2	L
QRC 109	1/8"	9	9	57
QRC 109 small	1/4"	9	9	46
QRC 113	3/8"	13	13	71
QRC 113 small	1/4"	13	13	53



Order: Quick Release Coupler QRC - Example QRC 113 Small



BRASS WATER NIPPLES

AEM

REF	R	d1	d2	E/C	L
AEM 1/8x6	1/8"	6	9.4	13	24
AEM 1/4x6	1/4"	6	9.4	16	29
AEM 3/8x6	3/8"	6	9.4	19	30
AEM 1/4x9	1/4"	9	13.5	16	34
AEM 3/8x9	3/8"	9	13.5	19	34



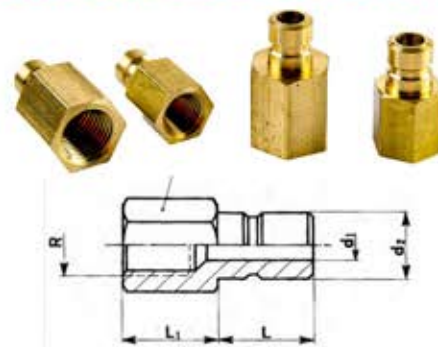
Order: Male water nipple AEM / R x d1 - Example AEM 1/8 x 6



BRASS WATER CONNECTOR

AEH

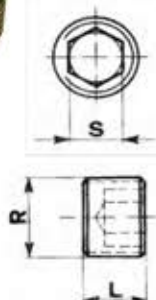
REF	R	d1	d2	E/C	L
AEH 1/8x6	1/8"	6	9.4	13	24
AEH 1/4x6	1/4"	6	9.4	16	29
AEH 1/4x9	1/4"	9	13.5	16	34
AEH 3/8x9	3/8"	9	13.5	24	34



Order: Female water connector AEH / R x d1 - Example AEH 1/8 x 6



R	S	L
1/8"	5	8
1/4"	6	10
3/8"	6	12



BSP Pressure Plug BSP / R - Example BSP 1/8



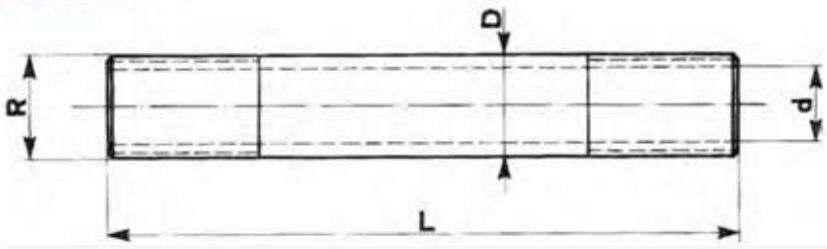
PART	DIAMETER	LENGTH
Cooling 10	10	10
Cooling 12	12	10
Cooling 16	16	15
Cooling 20	20	18

Order: Circuit Plugs / D - Example Cooling 12



EXTENSION PIPE

TR



R	d	D	L				
			50	75	100	150	200
1/8"	7	10	●	●	●	●	●
1/4"	9	13	●	●	●	●	●

Order: Water Pipe TR / R x L - Example TR 1/8 x 100

MATERIAL : Galvanised Steel



TAIL PIECE

TP



REINFORCED HOSE
RUBBER HOSE

CODE	ID	Tail OD
TP 1/8" x 9	6	9
TP 1/4" x 9	6	9
TP 1/4" x 11	9	13
TP 1/4" x 13	9	13
TP 3/8" x 13	9	13

KNURLED INSERTS



M4 M5 M6 M8 M10



PNEUMATIC FITTINGS

PUSH



SHPI PU TUBING AVAILABLE

- 4mm x 2.0 6mm x 4.0
- 8mm x 5.5 10mm x 6.5
- 12mm x 9.0 16mm x 12.0

BLUE , RED & CLEAR TUBING

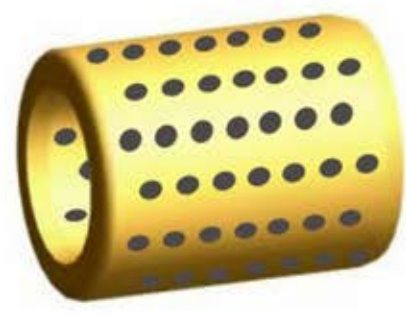
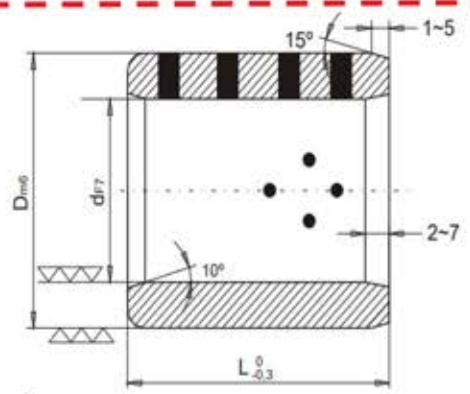


- Pipe to Pipe
- Pipe to thread
- T-Piece
- Y-Piece
- Unequal Tube to Tube
- Speed Control
- Elbow Fittings
- Manifolds
- Solenoids



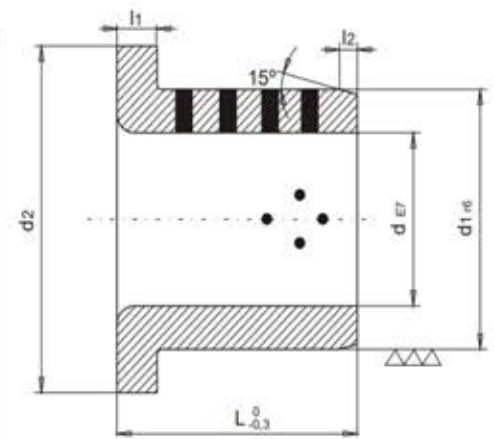
BRASS WITH GRAPHITE BUSH

BRASS



ID — d	OD — D	L						
8	12	8	10	12	15			
10	14	8	10	12	15	20		
12/13	18/19	10	12	16	20	25	30	
16	22	12	16	20	25	30	35	40
18	24	15/16	20	25	30	35	40	
20	28/30	16	20	25	30	35	40	
25	33/35	20	25	30	35	40	50	
30	38/40	20	25	30	35	40	50	60
35	44/45	25	30	35	40	50	60	
40	50/55	25	30	35	40	50	60	
45	55/56/60	30	35	40	50	60		
50	60/62/65	30	35	40	50	60	70	
55	70	40	50	60	70			

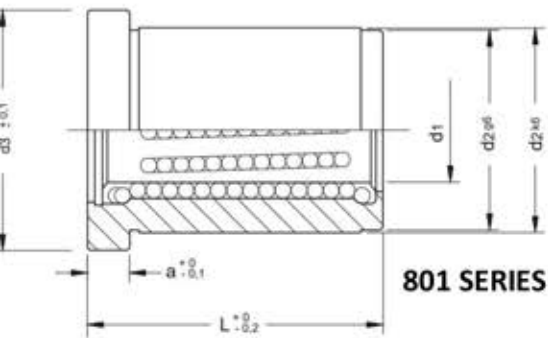
ID — d	OD — d1	D2 x l1	L			
10	14	22 x 2	15	20		
12	18	25 x 3	15	20		
13	19	26 x 3	15	20		
14	20	27 x 3	15	20		
15	21	28 x 3	15	20		
16	22	29 x 3	15	20	25	
20	30	40 x 5	15	20	30	40
25	35	45 x 5	20	25	30	40
30	40	50 x 5	30	35	40	50
35	45	60 x 5	30	40	50	
40	50	65 x 5	30	40	50	
45	55	70 x 5	30	40	60	
50	60	75 x 5	30	40	60	



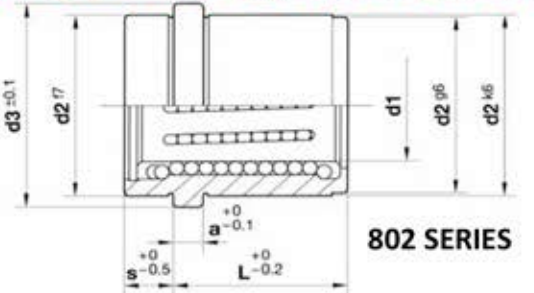


BOLEXP PINS AND BUSHES

BOLEXP



801 SERIES

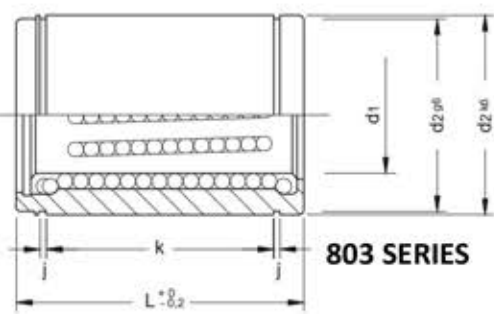


802 SERIES

d1	d2	d3	a	L				Ball Dia.	No of lines
				35	45	55	63		
20	32	36	6	●				3	8
25	40	45	6	●	●	●		3	8
32	50	56	8		●		●	4	8
40	60	66	8	●			●	4	8

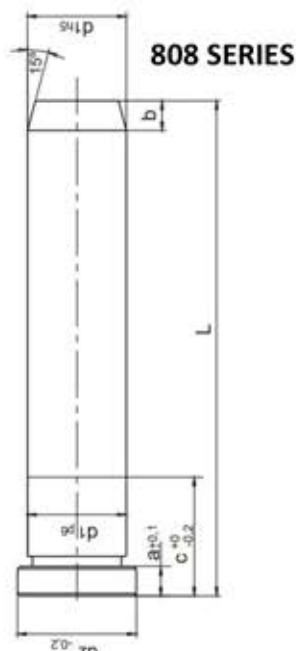
d1	d2	d3	a	s	L							Ball Dia.	No of lines	
					12	22	26	35	45	55	63			
10	20	24	4	9	●									5
12	24	28	6	8		●								5
16	28	32	6	9		●	●							6
20	32	36	6	9			●	●				3		8
25	40	45	6	10			●	●	●	●		3		8
32	50	56	8	12					●		●	4		8
40	60	66	8	12					●		●	4		8

d1	d2	L							Ball Dia.	No. of lines
		30	35	45	55	63	80	100		
12	24	●							3	5
16	28	●	●						3	6
20	32		●						3	6
20	32			●					3	8
25	40		●	●	●				3	8
32	50			●		●			4	8
40	60			●		●			4	8
50	70					●	●		4	10
60	85						●	●	4	12



803 SERIES

d1	d2	A	b	C	L												
					h5	+ - 0.1	- 0.2	60	80	100	125	160	200	250	315	400	
8	12	3	4	10		●	●	●									
10	14	4	4	12		●	●	●									
12	16	4	4	16			●	●	●								
16	20	6	6	20				●	●	●	●	●					
20	24	6	6	22					●	●	●	●	●				
25	30	6	6	25						●	●	●	●	●			
32	37	8	8	35							●	●	●	●	●		
40	45	8	8	35							●	●	●	●	●	●	
50	55	10	10	45											●	●	
60	65	10	10	55												●	●



808 SERIES

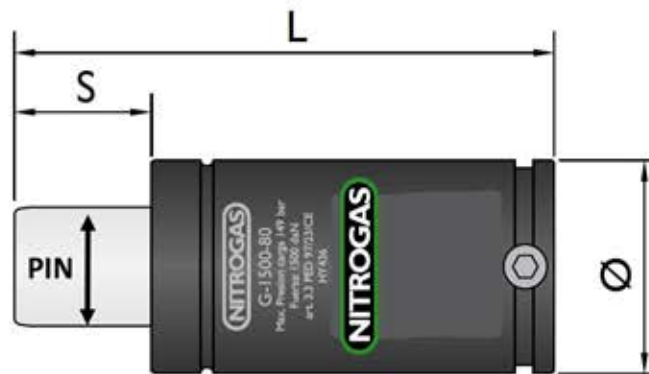


GAS SPRING OVERVIEW

LOW PROFILE - HIGH FORCE

NITROGAS

F0 daN	OD	PIN	L	STROKE														
				7	10	13	15	16	19	25	32	38	50	63	75	80	100	125
170	19	11 dia	2xS + 30	•	•		•		•	•		•	•	•	•	•	•	•
320	25	15 dia	2xS + 30		•		•		•	•		•	•	•	•	•	•	•
350	32	16 dia	2xS + 30		•	•		•	•	•	•	•	•	•	•	•	•	•
500	38	20 dia	2xS + 30		•	•		•	•	•	•	•	•	•	•	•	•	•
750	45	25 dia	2xS + 32		•	•		•	•	•	•	•	•	•	•	•	•	•
1000	50	28 dia	2xS + 38				•		•		•	•	•	•	•	•	•	•
1500	63	36 dia	2xS + 44								•	•	•	•	•	•	•	•
2400	75	45 dia	2xS + 45								•	•	•	•	•	•	•	•



Order: GAS SPRING KP/ OD x L - Example : KP 350 x 38



TYPE: LIGHT LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N
G 10 - 025	OD 10	ID 5	25	10	6.3	63	7.5	75
G 10 - 032			32	8.5	8.0	68	9.6	82
G 10 - 038			38	6.8	9.5	65	11.4	78
G 10 - 044			44	6.0	11.0	66	13.2	79
G 10 - 051			51	5.0	12.8	64	15.3	77
G 10 - 064			64	4.3	16.0	69	19.2	83
G 10 - 076			Wire - 1.7 x 1.1		76	3.2	19.0	61
G 13 - 025	OD 12.5	ID 6.3	25	17.9	6.3	113	7.5	134
G 13 - 032			32	16.4	8.0	131	9.6	157
G 13 - 038			38	13.6	9.5	129	11.4	155
G 13 - 044			44	12.1	11.0	133	13.2	160
G 13 - 051			51	11.4	12.8	146	15.3	174
G 13 - 064			64	9.3	16.0	149	19.2	179
G 13 - 076			76	7.1	19.0	135	22.8	162
G 13 - 089			89	5.4	22.3	120	26.7	144
G 13 - 102	Wire - 2.4 x 1.4		102	4.1	25.5	105	30.6	125
G 16 - 025	OD 16	ID 8	25	23.4	6.3	147	7.5	176
G 16 - 032			32	22.9	8.0	183	9.6	220
G 16 - 038			38	19.3	9.5	183	11.4	220
G 16 - 044			44	17.1	11.0	188	13.2	226
G 16 - 051			51	15.7	12.8	201	15.3	240
G 16 - 064			64	10.7	16.0	171	19.2	205
G 16 - 076			76	10.0	19.0	190	22.8	228
G 16 - 089			89	8.6	22.3	192	26.7	230
G 16 - 102			102	7.8	25.5	199	30.6	239
G 16 - 115	Wire - 3.2 x 1.5		115	6.6	28.8	190	34.5	228
G 20 - 025	OD 20	ID 10	25	55.8	6.3	352	7.5	419
G 20 - 032			32	45.0	8.0	360	9.6	432
G 20 - 038			38	33.3	9.5	316	11.4	380
G 20 - 044			44	30.0	11.0	330	13.2	396
G 20 - 051			51	24.5	12.8	314	15.3	375
G 20 - 064			64	20.0	16.0	320	19.2	384
G 20 - 076			76	16.0	19.0	304	22.8	365
G 20 - 089			89	14.0	22.3	312	26.7	374
G 20 - 102			102	12.0	25.5	306	30.6	367
G 20 - 115			115	10.9	28.8	314	34.5	376
G 20 - 127			127	9.5	31.8	302	38.1	362
G 20 - 139			139	8.4	35.0	294	42.0	353
G 20 - 152			Wire - 4.0 x 2.1		152	7.5	38.0	285



CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000			
	mm	mm	Length	N/mm	mm	N	mm	N		
G 25 - 025	OD 25	ID 12.5	25	100	6.3	630	7.5	750		
G 25 - 032			32	80.3	8.0	642	9.6	771		
G 25 - 038			38	62.0	9.5	589	11.4	707		
G 25 - 044			44	52.9	11.0	582	13.2	698		
G 25 - 051			51	44.0	12.8	563	15.3	673		
G 25 - 064			64	35.2	16.0	563	19.2	676		
G 25 - 076			76	28.0	19.0	532	22.8	638		
G 25 - 089			89	24.0	22.3	535	26.7	641		
G 25 - 102			102	21.1	25.5	538	30.6	646		
G 25 - 115			115	18.7	28.8	539	34.5	645		
G 25 - 127			127	16.7	31.8	531	38.1	636		
G 25 - 139			139	15.3	35.0	536	42.0	643		
G 25 - 152			152	14.0	38.0	532	45.6	638		
G 25 - 178			178	12.5	44.5	556	53.4	668		
G 25 - 203			Wire - 5.4 x 2.7		203	10.4	50.8	528	60.9	633
G 32 - 038			OD 32	ID 16	38	94.0	9.5	893	11.4	1072
G 32 - 044	44	79.5			11.0	875	13.2	1049		
G 32 - 051	51	67.0			12.8	858	15.3	1025		
G 32 - 064	64	53.0			16.0	848	19.2	1018		
G 32 - 076	76	44.0			19.0	836	22.8	1003		
G 32 - 089	89	37.2			22.3	830	26.7	993		
G 32 - 102	102	32.0			25.5	816	30.6	979		
G 32 - 115	115	29.0			28.8	835	34.5	1001		
G 32 - 127	127	25.0			31.8	795	38.1	953		
G 32 - 139	139	23.0			35.0	805	42.0	966		
G 32 - 152	152	21.5			38.0	817	45.6	980		
G 32 - 178	178	18.2			44.5	810	53.4	972		
G 32 - 203	203	15.8			50.8	803	60.9	962		
G 32 - 254	Wire - 6.8 x 3.3				254	12.5	63.5	794	76.2	953
G 40 - 051	OD 40	ID 20	51	92.0	12.8	1178	15.3	1408		
G 40 - 064			64	73.0	16.0	1168	19.2	1402		
G 40 - 076			76	63.0	19.0	1197	22.8	1436		
G 40 - 089			89	51.0	22.3	1137	26.7	1362		
G 40 - 102			102	43.0	25.5	1097	30.6	1316		
G 40 - 115			115	39.6	28.8	1140	34.5	1366		
G 40 - 127			127	37.0	31.8	1177	38.1	1410		
G 40 - 139			139	32.0	35.0	1120	42.0	1344		
G 40 - 152			152	28.0	38.0	1064	45.6	1277		
G 40 - 178			178	25.2	44.5	1121	53.4	1346		
G 40 - 203			203	22.7	50.8	1153	60.9	1382		
G 40 - 254			Wire - 8.1 x 4.0		254	17.0	63.5	1080	76.2	1295

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N
G 50 - 064	OD 50	ID 25	64	156	16.0	2496	19.2	2995
G 50 - 076			76	125	19.0	2375	22.8	2850
G 50 - 089			89	109	22.3	2431	26.7	2910
G 50 - 102			102	94.0	25.5	2397	30.6	2876
G 50 - 115			115	81.0	28.8	2333	34.5	2795
G 50 - 127			127	71.0	31.8	2258	38.1	2705
G 50 - 139			139	66.5	35.0	2328	42.0	2793
G 50 - 152			152	60.0	38.0	2280	45.6	2736
G 50 - 178			178	52.0	44.5	2314	53.4	2777
G 50 - 203			203	44.0	50.8	2235	60.9	2680
G 50 - 254			Wire - 10.9 x 5.3		254	35.0	63.5	2223
G 63 - 076	63	38	76	189.3			22.5	4259
G 63 - 101			101	135.4			30	4062
G 63 - 303	Wire - 11.5 x 8.3		303	38.2			91	3476

TYPE: MEDIUM LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N
B 10 - 025	OD 10	ID 5	25	16.0	6.3	101	7.5	120
B 10 - 032			32	13.0	8.0	104	9.6	125
B 10 - 038			38	11.9	9.5	113	11.4	136
B 10 - 044			44	10.3	11.0	113	13.2	136
B 10 - 051			51	8.9	12.8	114	15.3	136
B 10 - 064			64	7.5	16.0	120	19.2	144
B 10 - 076	Wire - 1.9 x 1.3		76	5.3	19.0	101	22.8	121
B 13 - 025	OD 12.5	ID 6.3	25	30.0	6.3	189	7.5	225
B 13 - 032			32	24.8	8.0	198	9.6	238
B 13 - 038			38	21.4	9.5	203	11.4	244
B 13 - 044			44	18.5	11.0	204	13.2	244
B 13 - 051			51	15.5	12.8	198	15.3	237
B 13 - 064			64	12.1	16.0	194	19.2	232
B 13 - 076			76	10.2	19.0	194	22.8	233
B 13 - 089			89	8.4	22.3	187	26.7	224
B 13 - 102			Wire - 2.5 x 1.5		102	6.3	25.5	161



TYPE: MEDIUM LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N

B 16 - 025	OD 16	ID 8	25	49.4	6.3	311	7.5	371
B 16 - 032			32	37.1	8.0	297	9.6	356
B 16 - 038			38	33.9	9.5	322	11.4	386
B 16 - 044			44	30.0	11.0	330	13.2	396
B 16 - 051			51	26.4	12.8	338	15.3	404
B 16 - 064			64	20.5	16.0	328	19.2	394
B 16 - 076			76	17.8	19.0	338	22.8	406
B 16 - 089			89	15.2	22.3	339	26.7	406
B 16 - 102			102	13.5	25.5	344	30.6	413
B 16 - 115			Wire - 3.2 x 2.0		115	11.8	28.8	340

B 20 - 025	OD 20	ID 10	25	98.0	6.3	617	7.5	735		
B 20 - 032			32	72.6	8.0	581	9.6	697		
B 20 - 038			38	56.0	9.5	532	11.4	638		
B 20 - 044			44	47.5	11.0	523	13.2	627		
B 20 - 051			51	41.7	12.8	534	15.3	638		
B 20 - 064			64	32.2	16.0	517	19.2	620		
B 20 - 076			76	25.1	19.0	477	22.8	572		
B 20 - 089			89	22.0	22.3	491	26.7	587		
B 20 - 102			102	19.8	25.5	505	30.6	606		
B 20 - 115			115	18.1	28.8	521	34.5	624		
B 20 - 127			127	16.6	31.8	528	38.1	632		
B 20 - 139			139	15.1	35.0	529	42.0	634		
B 20 - 152			Wire - 4.1 x 2.4		152	13.2	38.0	500	45.6	600

B 25 - 025	OD 25	ID 12.5	25	147	6.3	926	7.5	1103		
B 25 - 032			32	118	8.0	944	9.6	1133		
B 25 - 038			38	93.0	9.5	884	11.4	1060		
B 25 - 044			44	80.8	11.0	889	13.2	1067		
B 25 - 051			51	68.6	12.8	878	15.3	1050		
B 25 - 064			64	53.0	16.0	848	19.2	1018		
B 25 - 076			76	43.2	19.0	821	22.8	985		
B 25 - 089			89	38.2	22.3	852	26.7	1020		
B 25 - 102			102	33.0	25.5	842	30.6	1010		
B 25 - 115			115	28.0	28.8	806	34.5	966		
B 25 - 127			127	25.9	31.8	824	38.1	987		
B 25 - 139			139	23.2	35.0	812	42.0	974		
B 25 - 152			152	20.8	38.0	790	45.6	948		
B 25 - 178			178	17.8	44.5	792	53.4	951		
B 25 - 203			Wire - 5.4 x 3.3		203	15.8	50.8	803	60.9	962



TYPE: MEDIUM LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000			
	mm	mm	Length	N/mm	mm	N	mm	N		
B 32 - 038	OD 32	ID 16	38	185	9.5	1758	11.4	2109		
B 32 - 044			44	158	11.0	1738	13.2	2086		
B 32 - 051			51	134	12.8	1715	15.3	2050		
B 32 - 064			64	99.0	16.0	1584	19.2	1901		
B 32 - 076			76	80.5	19.0	1530	22.8	1835		
B 32 - 089			89	69.1	22.3	1541	26.7	1845		
B 32 - 102			102	58.8	25.5	1499	30.6	1799		
B 32 - 115			115	51.5	28.8	1483	34.5	1777		
B 32 - 127			127	44.8	31.8	1425	38.1	1707		
B 32 - 139			139	42.3	35.0	1481	42.0	1777		
B 32 - 152			152	37.8	38.0	1436	45.6	1724		
B 32 - 178			178	32.5	44.5	1446	53.4	1736		
B 32 - 203			203	28.9	50.8	1468	60.9	1760		
B 32 - 254			Wire - 6.8 x 4.0		254	21.4	63.5	1359	76.2	1631
B 40 - 051	OD 40	ID 20	51	182	12.8	2330	15.3	2785		
B 40 - 064			64	140	16.0	2240	19.2	2688		
B 40 - 076			76	108	19.0	2052	22.8	2462		
B 40 - 089			89	90.7	22.3	2023	26.7	2422		
B 40 - 102			102	81.0	25.5	2066	30.6	2479		
B 40 - 115			115	71.8	28.8	2068	34.5	2477		
B 40 - 127			127	62.7	31.8	1994	38.1	2389		
B 40 - 139			139	57.5	35.0	2013	42.0	2415		
B 40 - 152			152	51.6	38.0	1961	45.6	2353		
B 40 - 178			178	44.1	44.5	1962	53.4	2355		
B 40 - 203			203	36.7	50.8	1864	60.9	2235		
B 40 - 254			Wire - 8.2 x 4.7		254	30.1	63.5	1911	76.2	2294
B 50 - 064	OD 50	ID 25	64	209	16.0	3344	19.2	4013		
B 50 - 076			76	168	19.0	3192	22.8	3830		
B 50 - 089			89	140	22.3	3122	26.7	3738		
B 50 - 102			102	119	25.5	3035	30.6	3641		
B 50 - 115			115	106	28.8	3053	34.5	3657		
B 50 - 127			127	97.0	31.8	3085	38.1	3696		
B 50 - 139			139	87.0	35.0	3045	42.0	3654		
B 50 - 152			152	80.0	38.0	3040	45.6	3648		
B 50 - 178			178	69.5	44.5	3093	53.4	3711		
B 50 - 203			203	59.8	50.8	3038	60.9	3642		
B 50 - 229			229	50.9	57.3	2917	68.7	3497		
B 50 - 254			Wire - 11.1 x 5.8		254	43.9	63.5	2788	76.2	3345



RED DIE SPRINGS

R

TYPE: HEAVY LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N
R 10 - 025	OD 10	ID 5	25	22.1	5.0	111	6.3	139
R 10 - 032			32	17.5	6.4	112	8.0	140
R 10 - 038			38	17.1	7.6	130	9.5	162
R 10 - 044			44	15.0	8.8	132	11.0	165
R 10 - 051			51	12.8	10.2	131	12.8	164
R 10 - 064			64	10.7	12.8	137	16.0	171
R 10 - 076			Wire - 1.9 x 1.5		76	7.5	15.2	114
R 13 - 025	OD 12.5	ID 6.3	25	42.1	5.0	211	6.3	265
R 13 - 032			32	33.2	6.4	212	8.0	266
R 13 - 038			38	29.3	7.6	223	9.5	278
R 13 - 044			44	24.6	8.8	216	11.0	271
R 13 - 051			51	19.6	10.2	200	12.8	251
R 13 - 064			64	15.0	12.8	192	16.0	240
R 13 - 076			76	13.2	15.2	201	19.0	251
R 13 - 089	89	11.4	17.8	203	22.3	254		
R 13 - 102	Wire - 2.4 x 1.9		102	8.4	20.4	171	25.5	214
R 16 - 025	OD 16	ID 8	25	75.5	5.0	379	6.3	477
R 16 - 032			32	52.8	6.4	338	8.0	422
R 16 - 038			38	48.5	7.6	369	9.5	461
R 16 - 044			44	42.8	8.8	377	11.0	471
R 16 - 051			51	37.1	10.2	378	12.8	475
R 16 - 064			64	30.3	12.8	388	16.0	485
R 16 - 076			76	25.7	15.2	391	19.0	488
R 16 - 089			89	21.7	17.8	386	22.3	484
R 16 - 102			102	19.3	20.4	394	25.5	492
R 16 - 115	Wire - 3.1 x 2.5		115	15.7	23.0	361	28.8	452
R 20 - 025	OD 20	ID 10	25	216	5.0	1080	6.3	1361
R 20 - 032			32	168	6.4	1075	8.0	1344
R 20 - 038			38	129	7.6	980	9.5	1226
R 20 - 044			44	112	8.8	986	11.0	1232
R 20 - 051			51	94.0	10.2	959	12.8	1203
R 20 - 064			64	72.1	12.8	923	16.0	1154
R 20 - 076			76	59.7	15.2	907	19.0	1134
R 20 - 089			89	50.5	17.8	899	22.3	1126
R 20 - 102			102	44.2	20.4	902	25.5	1127
R 20 - 115			115	38.4	23.0	883	28.8	1106
R 20 - 127			127	34.1	25.4	866	31.8	1084
R 20 - 139			139	31.0	28.0	868	35.0	1085
R 20 - 152			Wire - 4.0 x 3.3		152	28.2	30.4	857



TYPE: HEAVY LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000			
	mm	mm	Length	N/mm	mm	N	mm	N		
R 25 - 025	OD 25	ID 12.5	25	375	5.0	1875	6.3	2363		
R 25 - 032			32	297	6.4	1901	8.0	2376		
R 25 - 038			38	219	7.6	1664	9.5	2081		
R 25 - 044			44	187	8.8	1646	11.0	2057		
R 25 - 051			51	156	10.2	1591	12.8	1997		
R 25 - 064			64	123	12.8	1574	16.0	1968		
R 25 - 076			76	99.0	15.2	1505	19.0	1881		
R 25 - 089			89	84.0	17.8	1495	22.3	1873		
R 25 - 102			102	73.0	20.4	1489	25.5	1862		
R 25 - 115			115	65.0	23.0	1495	28.8	1872		
R 25 - 127			127	57.7	25.4	1466	31.8	1835		
R 25 - 139			139	52.7	28.0	1476	35.0	1845		
R 25 - 152			152	47.8	30.4	1453	38.0	1816		
R 25 - 178			178	41.0	35.6	1460	44.5	1825		
R 25 - 203			Wire - 5.5 x 4.2		203	35.8	40.6	1453	50.8	1819

R 32 - 038	OD 32	ID 16	38	388	7.6	2949	9.5	3686		
R 32 - 044			44	324	8.8	2851	11.0	3564		
R 32 - 051			51	272	10.2	2774	12.8	3482		
R 32 - 064			64	212	12.8	2714	16.0	3392		
R 32 - 076			76	172	15.2	2614	19.0	3268		
R 32 - 089			89	141	17.8	2510	22.3	3144		
R 32 - 102			102	122	20.4	2489	25.5	3111		
R 32 - 115			115	107	23.0	2461	28.8	3082		
R 32 - 127			127	93.0	25.4	2362	31.8	2957		
R 32 - 139			139	86.0	28.0	2408	35.0	3010		
R 32 - 152			152	78.0	30.4	2371	38.0	2964		
R 32 - 178			178	67.2	35.6	2392	44.5	2990		
R 32 - 203			203	59.1	40.6	2399	50.8	3002		
R 32 - 254			Wire - 7.1 x 5.4		254	46.4	50.8	2357	63.5	2946

R 40 - 051	OD 40	ID 20	51	350	10.2	3570	12.8	4480		
R 40 - 064			64	269	12.8	3443	16.0	4304		
R 40 - 076			76	219	15.2	3329	19.0	4161		
R 40 - 089			89	190	17.8	3382	22.3	4237		
R 40 - 102			102	163	20.4	3325	25.5	4157		
R 40 - 115			115	142	23.0	3266	28.8	4090		
R 40 - 127			127	128	25.4	3251	31.8	4070		
R 40 - 139			139	115	28.0	3220	35.0	4025		
R 40 - 152			152	105	30.4	3192	38.0	3990		
R 40 - 178			178	89	35.6	3168	44.5	3961		
R 40 - 203			203	77	40.6	3126	50.8	3912		
R 40 - 254			Wire - 8.4 x 6.2		254	61	50.8	3099	63.5	3874



RED DIE SPRINGS

R

TYPE: HEAVY LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	25%L ₀ +3.000.000		30%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N
R 50 - 064	50	25	64	413	12.8	5286	16.0	6608
R 50 - 076			76	339	15.2	5153	19.0	6441
R 50 - 089			89	288	17.8	5126	22.3	6422
R 50 - 102			102	245	20.4	4998	25.5	6248
R 50 - 115			115	215	23.0	4945	28.8	6192
R 50 - 127			127	192	25.4	4877	31.8	6106
R 50 - 139			139	168	28.0	4704	35.0	5880
R 50 - 152			152	154	30.4	4682	38.0	5852
R 50 - 178			178	134	35.6	4770	44.5	5963
R 50 - 203			203	117	40.6	4750	50.8	5944
R 50 - 254			Wire - 11.1 x 7.6		254	89	50.8	4521



YELLOW DIE SPRINGS

Y

TYPE: EXTRA-HEAVY LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	17%L ₀ +3.000.000		20%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N
Y 10 - 025	10	5	25	36.8	4.3	158	5.0	184
Y 10 - 032			32	27.9	5.4	151	6.4	179
Y 10 - 038			38	23.7	6.5	154	7.6	180
Y 10 - 044			44	19.2	7.5	144	8.8	169
Y 10 - 051			51	16.5	8.7	144	10.2	168
Y 10 - 064			64	13.2	10.9	144	12.8	169
Y 10 - 076			Wire - 1.9 x 1.6		76	10.9	12.9	141

Y 13 - 025	12.5	6.3	25	58.5	4.3	252	5.0	293
Y 13 - 032			32	43.9	5.4	237	6.4	281
Y 13 - 038			38	36.0	6.5	234	7.6	274
Y 13 - 044			44	30.3	7.5	227	8.8	267
Y 13 - 051			51	26.2	8.7	228	10.2	267
Y 13 - 064			64	21.2	10.9	231	12.8	271
Y 13 - 076			76	17.1	12.9	221	15.2	260
Y 13 - 089			89	14.5	15.1	219	17.8	258
Y 13 - 102			Wire - 2.6 x 2.0		102	12.7	17.3	220



YELLOW DIE SPRINGS



TYPE: EXTRA-HEAVY LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	17%L ₀ +3.000.000		20%L ₀ ~1.500.000	
	mm	mm	Length	N/mm	mm	N	mm	N
Y 16 - 025	OD 16	ID 8	25	118	4.3	507	5.0	590
Y 16 - 032			32	89.0	5.4	481	6.4	570
Y 16 - 038			38	72.1	6.5	469	7.6	548
Y 16 - 044			44	60.9	7.5	457	8.8	536
Y 16 - 051			51	52.3	8.7	455	10.2	533
Y 16 - 064			64	41.2	10.9	449	12.8	527
Y 16 - 076			76	34.1	12.9	440	15.2	518
Y 16 - 089			89	29.5	15.1	445	17.8	525
Y 16 - 102			102	25.6	17.3	443	20.4	522
Y 16 - 115			Wire - 3.2 x 2.9		115	22.4	19.6	439
Y 20 - 025	OD 20	ID 10	25	293	4.3	1260	5.0	1465
Y 20 - 032			32	224	5.4	1210	6.4	1434
Y 20 - 038			38	177	6.5	1151	7.6	1345
Y 20 - 044			44	149	7.5	1118	8.8	1311
Y 20 - 051			51	128	8.7	1114	10.2	1306
Y 20 - 064			64	99.0	10.9	1079	12.8	1267
Y 20 - 076			76	81.7	12.9	1054	15.2	1242
Y 20 - 089			89	69.5	15.1	1049	17.8	1237
Y 20 - 102			102	60.6	17.3	1048	20.4	1236
Y 20 - 115			115	53.0	19.6	1039	23.0	1219
Y 20 - 127			127	47.5	21.6	1026	25.4	1207
Y 20 - 139			139	43.0	23.8	1023	28.0	1204
Y 20 - 152			Wire - 4.1 x 3.8		152	39.0	25.8	1006
Y 25 - 025	OD 25	ID 12.5	25	459	4.3	1974	5.0	2295
Y 25 - 032			32	374	5.4	2020	6.4	2394
Y 25 - 038			38	300	6.5	1950	7.6	2280
Y 25 - 044			44	244	7.5	1830	8.8	2147
Y 25 - 051			51	208	8.7	1810	10.2	2122
Y 25 - 064			64	161	10.9	1755	12.8	2061
Y 25 - 076			76	131	12.9	1690	15.2	1991
Y 25 - 089			89	111	15.1	1676	17.8	1976
Y 25 - 102			102	96.3	17.3	1666	20.4	1965
Y 25 - 115			115	85.7	19.6	1680	23.0	1971
Y 25 - 127			127	76.3	21.6	1684	25.4	1938
Y 25 - 139			139	66.0	23.8	1571	28.0	1848
Y 25 - 152			152	63.5	25.8	1638	30.4	1930
Y 25 - 178			178	53.9	30.3	1633	35.6	1919
Y 25 - 203			Wire - 5.4 x 4.6		203	47.0	34.5	1622

TYPE: EXTRA-STRONG LOAD SPRINGS

CODE	Hole Diameter	Pin Diameter	Free Strength	Spring Constant	17% L ₀ +3.000.000		20% L ₀ ~1.500.000			
	mm	mm	Length	N/mm	mm	N	mm	N		
Y 32 - 038	OD 32	ID 16	38	480	6.5	3120	7.6	3648		
Y 32 - 044			44	390	7.5	2925	8.8	3432		
Y 32 - 051			51	320	8.7	2784	10.2	3264		
Y 32 - 064			64	269	10.9	2934	12.8	3446		
Y 32 - 076			76	219	12.9	2825	15.2	3329		
Y 32 - 089			89	180	15.1	2723	17.8	3209		
Y 32 - 102			102	155	17.3	2682	20.4	3162		
Y 32 - 115			115	140	19.6	2744	23.0	3220		
Y 32 - 127			127	124	21.6	2678	25.4	3150		
Y 32 - 139			139	112	23.8	2673	28.0	3144		
Y 32 - 152			152	102	25.8	2632	30.4	3101		
Y 32 - 178			178	88.2	30.3	2672	35.6	3140		
Y 32 - 203			203	76.0	34.5	2622	40.6	3086		
Y 32 - 254			Wire - 7.3 x 5.9		254	60.8	43.2	2627	50.8	3089
Y 40 - 051	OD 40	ID 20	51	628	8.7	5464	10.2	6406		
Y 40 - 064			64	487	10.9	5308	12.8	6234		
Y 40 - 076			76	379	12.9	4889	15.2	5761		
Y 40 - 089			89	321	15.1	4847	17.8	5714		
Y 40 - 102			102	281	17.3	4861	20.4	5732		
Y 40 - 115			115	245	19.6	4802	23.0	5635		
Y 40 - 127			127	221	21.6	4774	25.4	5613		
Y 40 - 139			139	195	23.8	4641	28.0	5460		
Y 40 - 152			152	168	25.8	4334	30.4	5107		
Y 40 - 178			178	150	30.3	4545	35.6	5340		
Y 40 - 203			203	132	34.5	4554	40.6	5359		
Y 40 - 254			Wire - 8.4 x 7.5		254	107	43.2	4622	50.8	5436

