



## About AMRIK ENGINEERS

Established in the year 1992, we Amrik Engineers, strive rigorously to produce products of impeccable quality by adopting and adhering to the principles of uniformity and transparency in all our dealings. We are leading manufacturers, suppliers & exporters of Industrial Pins that include **Straight Ejector Pin, Stepped Ejector Pin, Blade Ejector Pin, Sleeve Ejector Pin, Piercing Punch, Core Pins, Tapper Interlock, Guide Pin & Guide Bush.**

We have garnered fruitful relationships with our clients and distributors owing to our high quality products all across the globe and are highly regarded in the market as well as primarily known to have met our deadlines consistently till date, for following ethical practices and supplying high quality products.

Our products find application in different industries such as Automobiles and Industrial components. The supervisors ensure that products confirm to the industry specific quality standards. We keep a huge stock of these products so as to meet all kinds of demands at any given point of time.

Over the years, we have been adhering to the guidelines provided by various International bodies which have only strengthened our commitment towards detailing, cost effectiveness and any other challenges which have come our way while manufacturing our products. Our products go through stringent quality checks in planned cycles under the guidance of an uncompromising team of professionals and workers, so as to

### **OUR QUALITY ASSURANCE**

Our quality analysts closely check the products on their quality standards at a global scale. We have a Quality Assurance System coupled with modern testing facilities that give appropriate statistical data on regular quality checks and help us in redefining quality standards. With regular training, experts' consultation and innovative ideas, we let our team keep learning ways to deal with quality aspects from time to time. We also stick to planned cycles of quality checks right from sample approvals to final dispatch that are done in order to ensure quality of the product. We lay emphasis on quality packaging to ensure the product safety during the transit.

### **OUR RANGE OF PRODUCTS INCLUDES:**

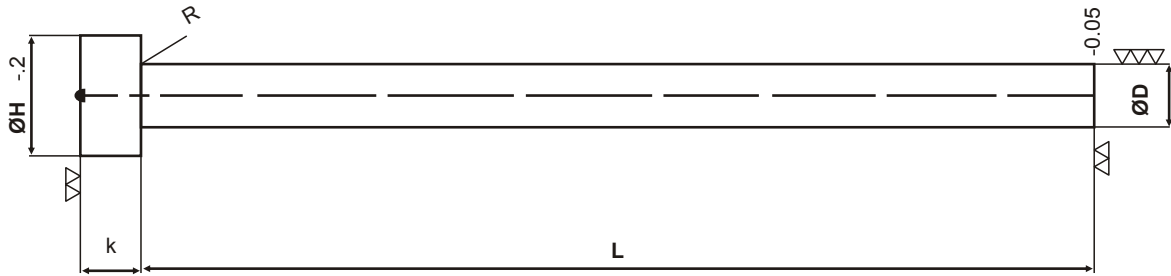
- ☑ Straight Ejector Pin
- ☑ Stepped Ejector Pin
- ☑ Blade Ejector Pin
- ☑ Sleeve Ejector Pin
- ☑ Piercing Punch
- ☑ Core Pins
- ☑ Tapper Interlock
- ☑ Guide Pin & Guide Bush.

### **WHY US?**

We are prime manufacturers of these pins and have won accolades for its durability, simple application configuration and reasonable pricing. The benefits of using our products include:

- ☑ Products as per national and international standards
- ☑ Use of modern and sophisticated machines
- ☑ Proper documentation to ensure transparency in all the business operations
- ☑ Hassle free logistic for prompt delivery
- ☑ Easy ordering process
- ☑ Easy payment mode
- ☑ Regular customer interaction to acknowledge the status of their ordered products.
- ☑ Highly efficient team
- ☑ Prompt Delivery deal with honest commitments

# Straight Ejector PIN



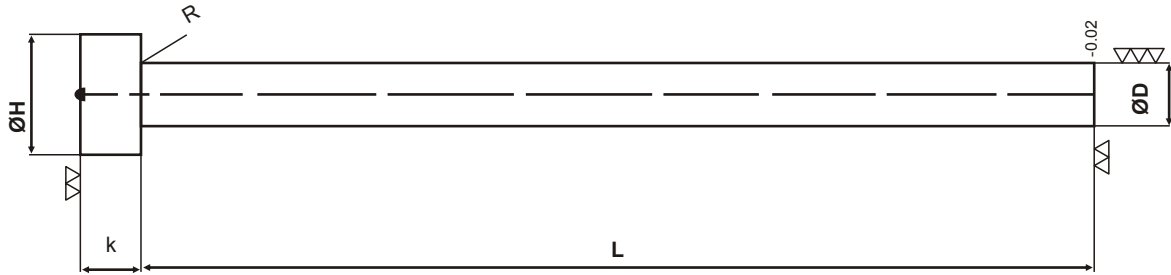
			STRAIGHT EJECTOR PIN										
Ø D	Ø H	k	100	125	160	200	250	300	350	400	450	500	
			0.8	4.00	5.5	✓							
0.9	4.00	5.5	✓										
1.0	4.00	5.5	✓										
1.1	4.00	5.5	✓	✓	✓								
1.2	4.00	5.5	✓	✓	✓								
1.3 - 1.4	4.00	5.5	✓	✓	✓								
1.5	4.00	5.5	✓	✓	✓								
1.6 - 1.9	5.00	5.5	✓	✓	✓								
2.0	5.00	5.5	✓	✓	✓	✓							
2.1 - 2.4	6.00	5.5	✓	✓	✓	✓	✓	✓					
2.5	6.00	5.5	✓	✓	✓	✓	✓	✓					
2.6 - 2.9	6.00	5.5	✓	✓	✓	✓	✓	✓					
3.0	6.00	5.5	✓	✓	✓	✓	✓	✓					
3.1 - 3.9	8.00	5.5	✓	✓	✓	✓	✓	✓					
4.0	8.00	5.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4.1 - 4.9	9.00	6.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5.0	9.00	6.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5.1 - 5.9	10.00	7.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6.0	10.00	7.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6.1 - 6.9	11.00	7.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7.0	11.00	7.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7.1 - 7.9	12.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
8.0	12.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
8.1 - 8.9	13.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
9.0	13.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
9.1 - 9.9	14.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
10.0	14.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
10.1 - 10.9	15.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11.0	15.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11.1 - 11.9	16.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
12.0	16.00	8.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

- Material :-OHNS
- Hardness:- 50-52 HRC
- Production time for white colored sizes is 2 working days and other are ready in stock.
- Straight ejector Pin are also made to customer specification.
- Immediate Delivery of Standard Sizes

**Order Example** ▶

ØD	L	QTY.
Ø3	160	20

# Push Back Pin



Push Back Pin								
Ø D	Ø H	k	Length					
			100	125	160	200	250	300
12.0	16.00	8.5	✓	✓	✓	✓	✓	✓
12.1 - 12.9	16.00	8.5	✓	✓	✓	✓	✓	✓
13.0 - 13.9	16.00	8.5	✓	✓	✓	✓	✓	✓
14.0	18.00	8.5	✓	✓	✓	✓	✓	✓
14.1 - 14.9	18.00	8.5	✓	✓	✓	✓	✓	✓
15.0 - 15.9	20.00	8.5	✓	✓	✓	✓	✓	✓
16.0	20.00	8.5	✓	✓	✓	✓	✓	✓
16.1 - 16.9	20.00	8.5	✓	✓	✓	✓	✓	✓
17.0 - 17.9	20.00	8.5	✓	✓	✓	✓	✓	✓
18.0	22.00	8.5	✓	✓	✓	✓	✓	✓
18.1 - 18.9	22.00	8.5	✓	✓	✓	✓	✓	✓
19.0 - 19.9	24.00	8.5	✓	✓	✓	✓	✓	✓
20.0	24.00	8.5	✓	✓	✓	✓	✓	✓

- Material :-OHNS / EN-353
- Hardness:- 50-52 HRC
- White colored sizes are ready in stock and production time for other sizes are 2 working days.
- **Immediate Delivery of Standard Sizes**

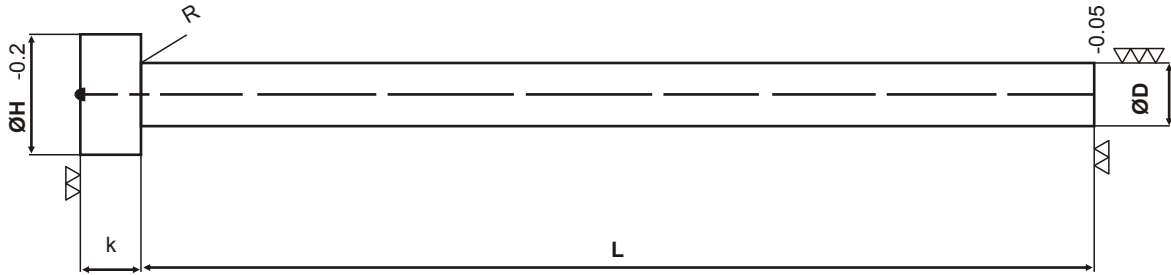
**Order Example** ▶

ØD  
Ø12

L  
160

QTY.  
20

# Straight Ejector Pin (H-13)



Straight Ejector Pin (H13)

ØD(-0.05)	2	2.5	3	4	5	6	8	10	12
Øh(-0.2)	5	5	6	8	9	10	12	14	16
k	8	8	8	8	10	10	10	10	10
R	0.2	0.2	0.3	0.3	0.3	0.5	0.5	0.5	0.8
LENGTH									
100	✓	✓	✓	✓	✓	✓	✓	✓	✓
125	✓	✓	✓	✓	✓	✓	✓	✓	✓
160	✓	✓	✓	✓	✓	✓	✓	✓	✓
200	✓	✓	✓	✓	✓	✓	✓	✓	✓
250	✓	✓	✓	✓	✓	✓	✓	✓	✓
300				✓	✓	✓	✓	✓	✓
350				✓	✓	✓	✓	✓	✓
400				✓	✓	✓	✓	✓	✓
450					✓	✓	✓	✓	✓
500						✓	✓	✓	✓

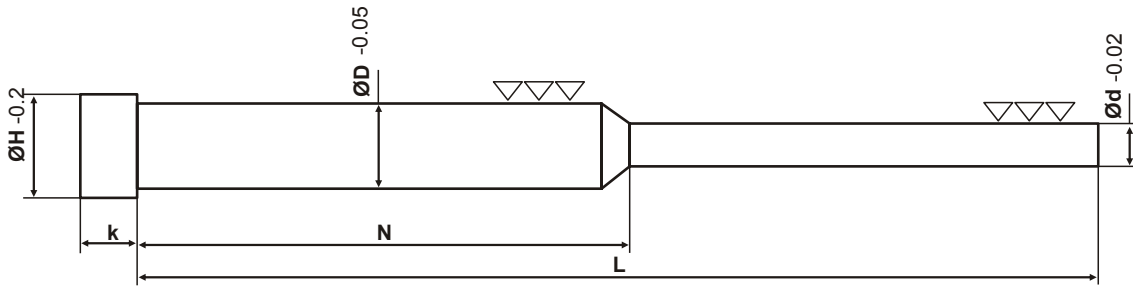
- Material :-HDS (H13)
- Hardness:- 46-50 HRC
- Immediate Delivery of Standard Sizes, these are ready in stock.
- Non std. Ejector pins are also made to customer's specifications. Costing is given based on qty

**Order Example** ▶

ØD	L	QTY.
Ø3	160	20

**Delivery Immediate**

# Stepped Ejector Pin



Stepped Ejector Pin										
Ø D	Ø d	ØH	k	Length						
				100	125	160	200	250	300	350
12.0	10.0 - 6.0	16.0	8.0	✓	✓	✓	✓	✓	✓	✓
10.0	8.0 - 5.0	14.0	8.0	✓	✓	✓	✓	✓	✓	✓
8.0	6.0 - 4.0	12.0	8.0	✓	✓	✓	✓	✓	✓	✓
6.0	5.0 - 3.0	10.	8.0	✓	✓	✓	✓	✓	✓	✓
5.0	4.0 - 2.5	9.0	8.0	✓	✓	✓	✓	✓	✓	✓
4.0	3.0 - 2.0	8.0	6.0	✓	✓	✓	✓	✓	✓	✓
3.0	2.5 - 1.5	6.00	5.0	✓	✓	✓	✓	✓	✓	✓
	1.2			✓	✓	✓	✓	✓		
	1			✓	✓	✓	✓			
	0.8			✓	✓	✓				
2.5	2.2 - 1.2	6.00	5.0	✓	✓	✓	✓	✓	✓	
	0.8				✓	✓	✓			
2.0	1.8 - 0.8	5.00	5.0		✓	✓				
1.5	1.2 - 0.8	4.00	5.0		✓	✓				

Dimension **ØH & k** will remain same as in case of **Straight Ejector Pin**. If it doesn't match with requirement, specify these dimension along with tolerances.

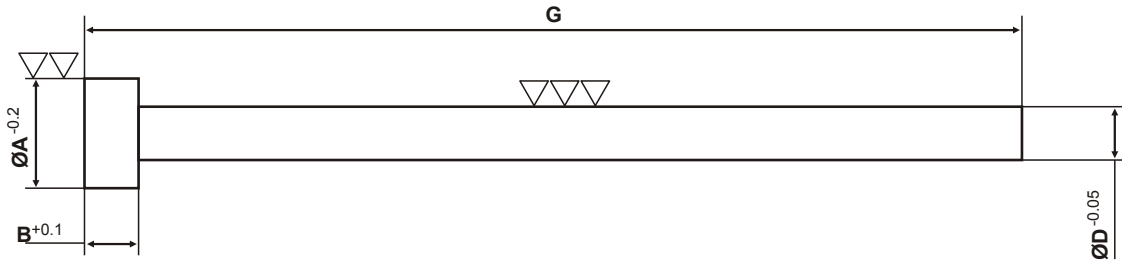
- Material :- OHNS(50-52HRC) , H13(48-50HRC)
- **THESE ARE CUSTOM SIZES WILL BE MADE AS PER CUSTOMER'S REQUIREMENT-(MOQ-20)**
- PRODUCTION TIME 2 TO 4 WORKING DAYS.

**Order Example** ▶

ØD x Ø d x L
N

QTY.

## Straight Ejector Pin (For Die Casting)

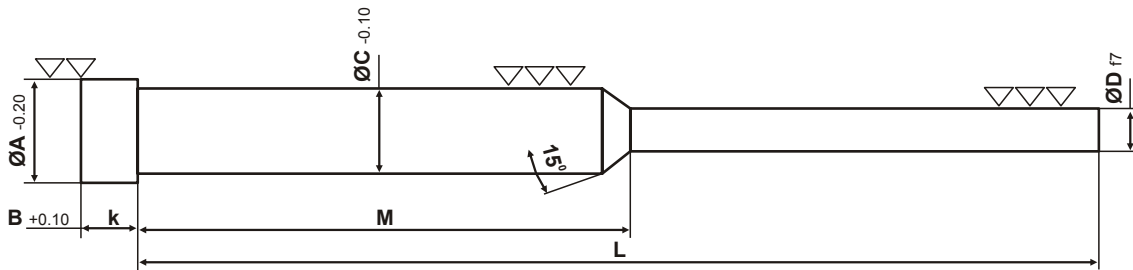


Straight Ejector Pin (For Die Casting)

S.No.	Ø A(-0.2)	Ø D(-0.02)	B	G	S.No.	Ø A(-0.2)	Ø D(-0.02)	B	G
1	10	5	10	125	36	12	7	12	400
2	10	5	10	150	37	12	7	12	425
3	10	5	10	175	38	12	8	12	125
4	10	5	10	200	39	12	8	12	150
5	10	5	10	225	40	12	8	12	175
6	10	5	10	250	41	12	8	12	200
7	10	5	10	275	42	12	8	12	225
8	10	5	10	300	43	12	8	12	250
9	10	5	10	325	44	12	8	12	275
10	10	5	10	350	45	12	8	12	300
11	10	6	12	100	46	12	8	12	325
12	10	6	12	125	47	12	8	12	350
13	10	6	12	150	48	12	8	12	375
14	10	6	12	175	49	12	8	12	400
15	10	6	12	200	50	12	8	12	425
16	10	6	12	225	51	12	8	12	450
17	10	6	12	250	52	12	8	12	475
18	10	6	12	275	53	12	8	12	500
19	10	6	12	300	54	12	8	12	525
20	10	6	12	325	55	12	8	12	550
21	10	6	12	350	56	12	8	12	575
22	10	6	12	375	57	12	8	12	600
23	10	6	12	400	58	12	8	12	625
24	10	6	12	425	59	12	8	12	650
25	12	7	12	125	60	12	8	12	675
26	12	7	12	150	61	12	8	12	700
27	12	7	12	175	62	12	8	12	725
28	12	7	12	200	63	12	8	12	750
29	12	7	12	225	64	14	9	12	125
30	12	7	12	250	65	14	9	12	150
31	12	7	12	275	66	14	9	12	175
32	12	7	12	300	67	14	9	12	200
33	12	7	12	325	68	14	9	12	225
34	12	7	12	350	69	14	9	12	250
35	12	7	12	375	70	14	9	12	275

- Material :- HDS (H13).
- Hardness :-46-50 HRC.
- THESE ARE CUSTOM SIZES WILL BE MADE AS PER CUSTOMER'S REQUIREMENT-(MOQ20)
- PRODUCTION TIME 2 TO 4 WORKING DAYS

## Stepped Ejector Pin (For Die Casting)



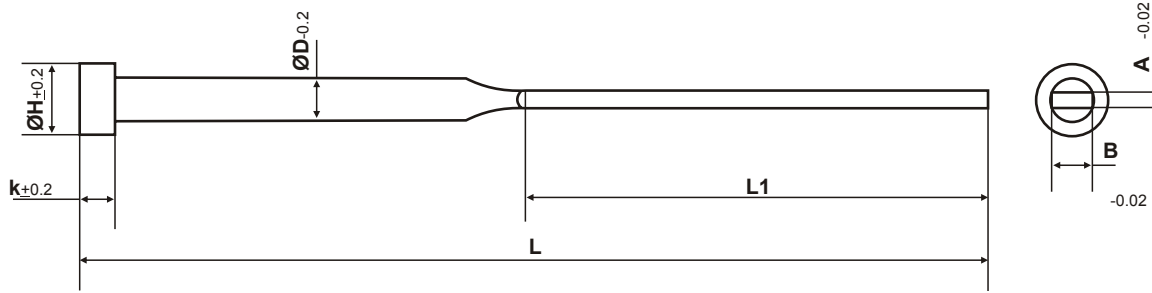
Stepped Ejector Pin (For Die Casting)

S.No.	Ø A(-0.2)	B	Ø C(-0.1)	M	Ø D(-0.05)	L
1	10	10	4	100	3	175
2	11	10	5	130	4	220
3	14	10	8	130	6	350
4	14	10	8	160	6	450
5	16	10	10	130	8	300
6	16	10	10	130	8	350
7	16	10	10	130	8	375
8	18	10	12	160	8	450
9	16	10	10	130	8	375
10	18	10	12	160	8	450
11	18	10	12	130	10	450
12	12	10	6	140	3	250
13	12	10	6	140	4	250
14	12	10	6	190	4	300
15	10	10	7	130	3.5	215
16	10	10	5	190	3	300
17	14	10	8	300	6	550
18	14	10	8	325	8	450
19	16	10	10	250	8	400
20	16	10	10	350	8	500
21	16	10	10	325	8	450
22	16	10	10	300	8	450
23	16	10	10	425	8	600
24	14	10	8	490	6	550
25	16	10	10	410	8	550
26	14	10	8	320	6	450
27	14	10	8	240	6	400
28	16	10	10	220	8	400
29	16	10	10	220	8	450
30	16	10	10	320	8	500
31	16	10	10	220	8	500
32	16	10	10	240	8	425

- Material :- **HDS (H13)**.
- Hardness :-46-50 HRC.
- **USED IN DIE CASTING**
- THESE ARE CUSTOM SIZES WILL BE MADE AS PER CUSTOMER'S REQUIREMENT-(MOQ20
- PRODUCTION TIME 2 TO 4 WORKING DAYS



# Blade Ejector Pin



			BLADE EJECTOR PIN										
Ø D	A min.	B min.	LENGTH										
			100	125	160	200	250	300	350	400	450	500	
16.0	2.00	12.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14.0	2.00	10.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12.0	2.00	8.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12.0	1.50	8.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10.0	2.00	6.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10.0	1.50	6.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8.0	1.50	4.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8.0	1.00	4.00	✓	✓	✓	✓	✓	✓	✓	✓			
7.0	1.25	4.00	✓	✓	✓	✓	✓	✓	✓				
6.0	1.00	3.00	✓	✓	✓	✓	✓	✓	✓				
6.0	0.75	3.00	✓	✓	✓	✓	✓	✓	✓				
5.0	1.00	3.00	✓	✓	✓	✓	✓						
5.0	0.75	3.00	✓	✓	✓	✓	✓	✓					
4.0	1.00	2.00	✓	✓	✓	✓							
4.0	0.75	2.00	✓	✓	✓	✓							
4.0	0.50	2.00	✓	✓	✓	✓							
3.0	1.00	2.50	✓	✓	✓	✓							
3.0	0.75	2.00	✓	✓	✓	✓							
3.0	0.50	2.00	✓	✓	✓	✓							
2.5	1.00	2.00	✓	✓	✓								
2.5	0.75	1.50	✓	✓	✓								
2.5	0.50	1.50	✓	✓	✓								
2.0	1.20	1.50	✓	✓	✓								
2.0	0.75	1.00	✓	✓	✓								
2.0	0.50	1.00	✓	✓	✓								

Dimension  $\text{ØH}$  &  $k$  will remain same as in case of **Straight Ejector Pin**. If it doesn't match with requirement, specify these dimension along with tolerances.

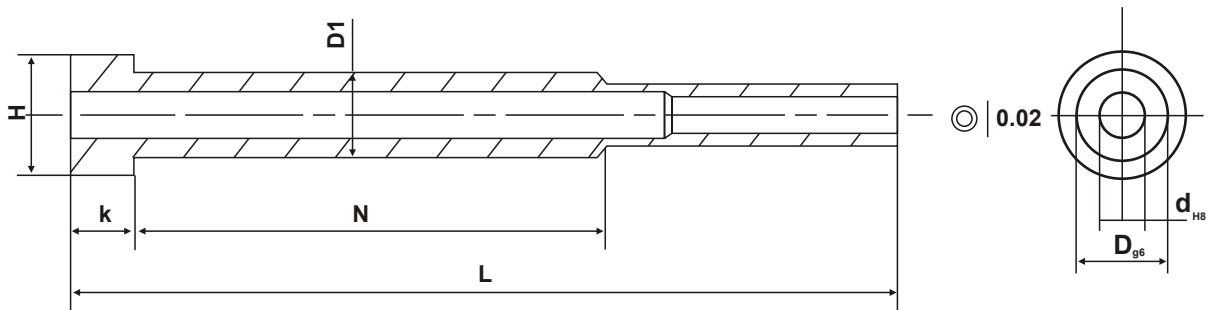
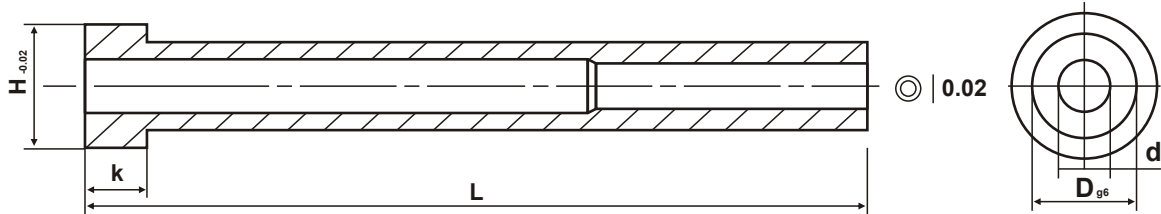
- These are custom sizes, will be made as per customer's requirement.
- Production Time 2-4 working days.

**Order Example** ▶

$\text{ØD} \times \overset{\text{Tol}}{A} \times \overset{\text{Tol}}{B} \times L$
L1

QTY.
-

# Sleeve Ejector Pin



Dimension  $\varnothing H$  &  $k$  will remain same as in case of **Straight Ejector Pin**. If it doesn't match with requirement, specify these dimension along with tolerances.

- Sleeve Ejector Pin will be made as per customer's requirement
- Production time is 5 to 7 days.
- Material : H13
- Hardness:48-50

**NOTE :- Minimum Wall Thickness Should Be 1mm Per Side.**

**Order Example** 

Od- $\varnothing D$  x L

Id- $\varnothing d$  x L

Qty.

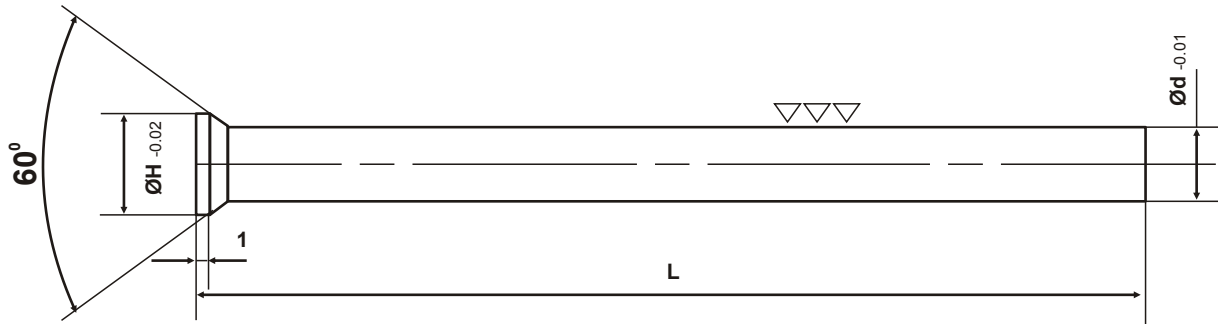
-

Od=Outer Dia Meter

Id=Inner Dia Meter



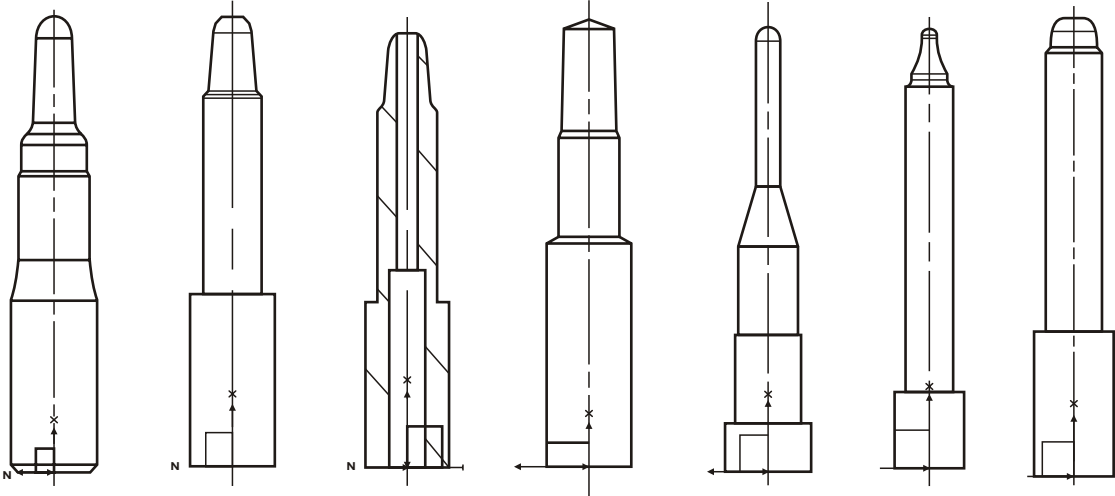
# Piercing Punch



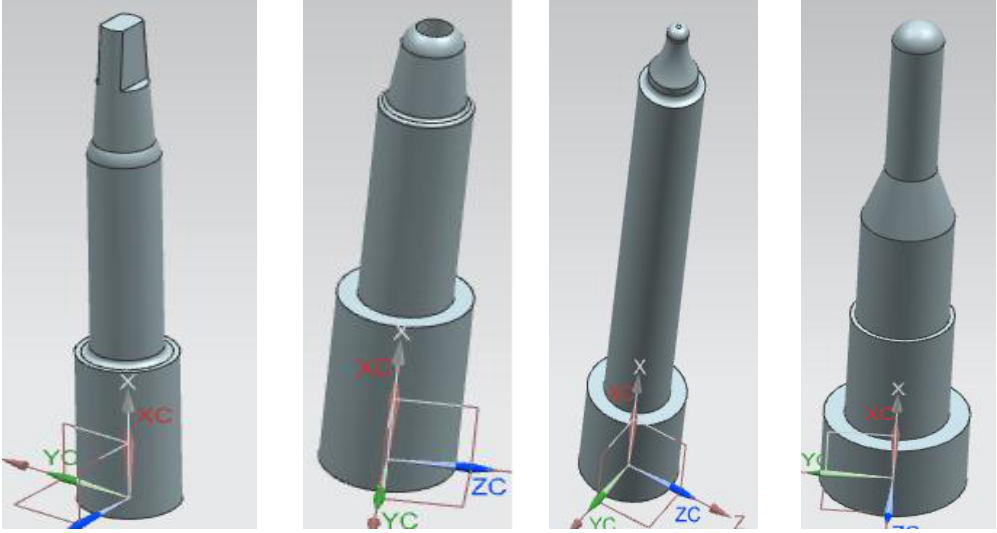
Ød	ØH	Material	L
1.5-1.9	3.0	HSS-M2 & HCHCR-D2	75, 100
2.0-2.9	5.0		75, 100
3.0-3.9	5.0		75, 100
4.0-4.9	6.0		75, 100
5.0-5.9	7.0		75, 100
6.0-6.9	8.0		75, 100
7.0-7.9	9.0		75, 100
8.0-8.9	10.0		75, 100
9.0-9.9	11.0		75, 100
10.0-10.9	12.0		75, 100
12.0-12.9	14.0		75, 100

- Material –D2,HSS
- Hardness:-60-62 HRC.
- Production time is 2 working days.
- Piercing Punches are also made to customer's specification.

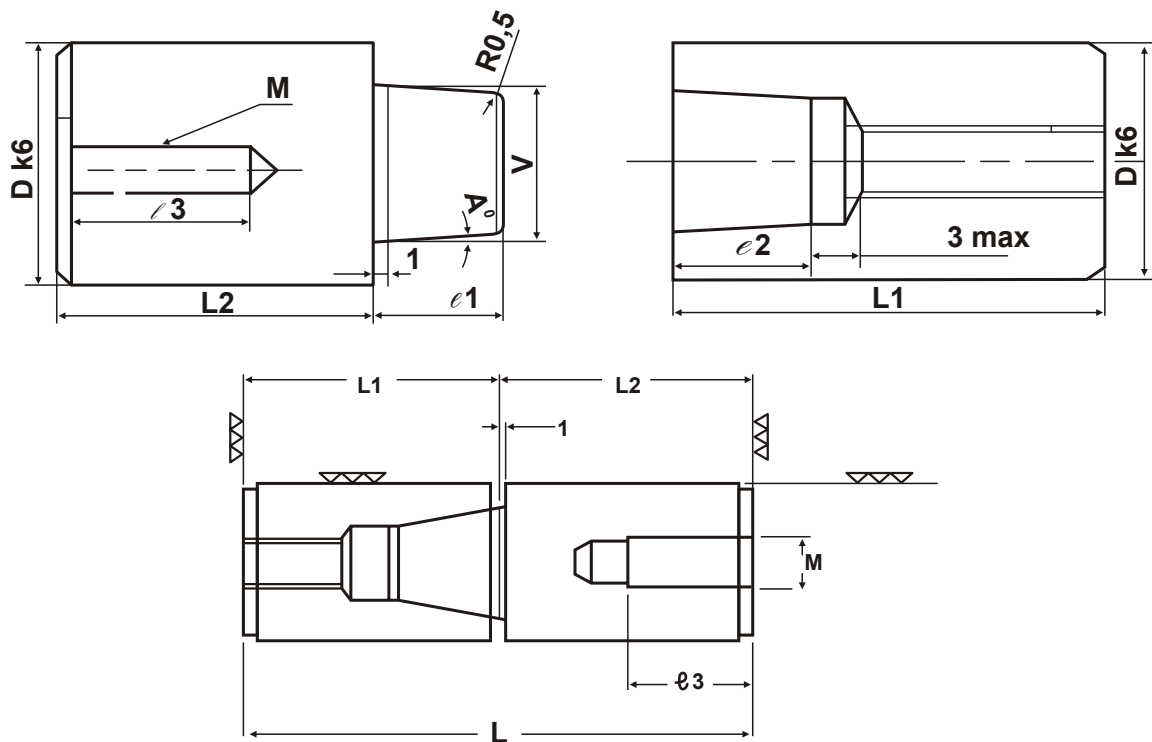
# Core Pins



- **Material:-H-13**
- Hardness:-46-48 HRC
- Core Pins will be made as per customer's specification.
- **Tolerances** is must for manufacturing.
- Production Time is 3 to 9 working days.



# Tapper Interlock



Code	A	D k6	V	L	L1	L2	ø1	ø2	ø3	M
TL-13	5*	13	8.5	30	14	14	6	5	10	M4
TL-16		16	10	30	14	14	6	5	10	M5
TL-20		20	13	40	19	19	9	8	12	M6
TL-25		25	16	50	24	24	12	11	16	M8
TL-30		30	20	60	29	29	15	14	20	M10
TL-32		32	20	60	29	29	15	14	20	M10
TL-35		35	24	70	34	34	18	17	24	M12
TL-42		42	30	80	39	39	24	23	24	M12

Order Example	
Code	Qty.
TL/20	10 pcs

- Production time is 5 to 7 days.
- Material : H13
- Hardness : 48-50

**All These Sizes Are For Reference. We also make as per customer's specification.**

# DIE SPRINGS

The ISO 10243 Standard lays down the following parameter for rectangular wire compression spring

- D** housing diameter(or external diameter)
- d** spring guide-pin diameter(or internal diameter)
- LO** length of springs at rest(or free length)
- R** load in kg, Necessary to deflect the spring by mm 1.

## TOLERANCES

Spring rate:  $\pm 10\%$

Free Length:  $\pm 1\%$  with the minimum of  $\pm \text{mm } 0.75$

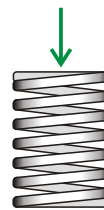
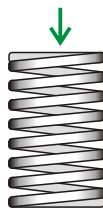
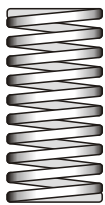
External Diameter: the external diameter of the spring is always smaller than the housing diameter indicated in the catalogue.

Internal Diameter: the internal diameter of the spring is always greater than the diameter of the guiding pin indicated in the catalogue.

## SPRING SELECTION

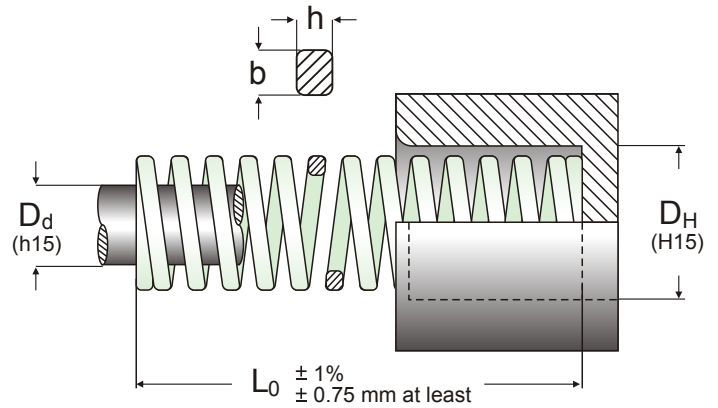
Spring selection is facilitated by the tables in our catalogue which indicate the load and stroke values in two different working deflection hypothesis. The following table summarizes the deflection calculated for each series.

Series	Load	XLL Long Life Total Deflection	Cycles	Max Maximum Working Total Deflection	Cycles
VL	Extra Light	35%	+3.000.000	50%	200.00
VL	Light	30%	+3.000.000	40%	200.00
B	Medium	25%	+3.000.000	37.50%	200.00
R	Heavy	20%	+3.000.000	30%	200.00
G	Extra Heavy	17%	+5.000.000	25%	300.00
A	Super Heavy	10%	+5.000.000	15%	500.00



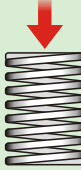

# VL SERIES

**EN** Extra Light Load Springs



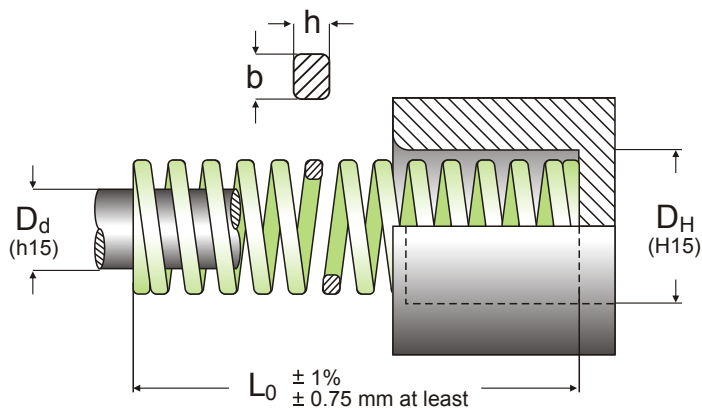
Code	$D_H$	$D_d$	R	A 30%		B 50%	
				mm	kg	mm	kg
	b x h		kg/mm	+3.000.000		100-200.000	
	mm	mm		mm	kg	mm	kg
VL 20 - 025	20	10	3.0	7.5	22.5	12.5	37.5
VL 20 - 032			2.3	9.6	22.2	16	36.9
VL 20 - 038			1.9	11.4	21.7	19	36.0
VL 20 - 044			1.6	13.2	21.1	22	35.2
VL 20 - 051			1.4	15.3	21.4	25.5	35.6
VL 20 - 064			1.2	19.2	22.1	32	36.9
VL 20 - 076			1.0	22.8	22.8	38	37.9
VL 20 - 089			0.9	26.7	22.7	44.5	37.6
VL 20 - 102			0.8	30.6	23.0	51	38.5
VL 20 - 115			0.7	34.5	22.4	57.5	37.5
VL 20 - 127			0.6	38.1	22.9	63.5	38.3
VL 20 - 139			0.6	41.7	22.9	69.5	38.3
VL 20 - 152			0.5	45.6	22.8	76	37.9
VL 20 - 305	4.3 X 1.7		0.3	91.5	23.8	153.0	38.9
VL 25 - 025	25	12.5	5.5	7.5	41.3	12.5	68.7
VL 25 - 032			4.3	9.6	41.3	16	68.9
VL 25 - 038			3.7	11.4	41.6	19	69.4
VL 25 - 044			3.2	13.2	42.2	22	70.5
VL 25 - 051			2.8	15.3	42.1	25.5	70.3
VL 25 - 064			2.2	19.2	42.2	32	70.5
VL 25 - 076			1.9	22.8	42.2	38	70.2
VL 25 - 089			1.6	26.7	41.4	44.5	69.0
VL 25 - 102			1.4	30.6	41.3	51	68.6
VL 25 - 115			1.2	34.5	41.4	57.5	69.3
VL 25 - 127			1.1	38.1	41.1	63.5	68.6
VL 25 - 139			1	41.7	40.9	69.5	68.0
VL 25 - 152			0.9	45.6	41	76	68.2
VL 25 - 178	0.8	53.4	41.7	89.0	69.0		
VL 25 - 203	0.7	60.9	41.4	102	69.4		
VL 25 - 305	5.4 X 2.2		0.5	91.5	41.2	153.0	68.4
VL 32 - 038	32	16	4.4	11.4	50.1	19	83.5
VL 32 - 044			3.8	13.2	50.2	22	83.7
VL 32 - 051			3.3	15.3	50.6	25.5	84.3
VL 32 - 064			2.6	19.2	50.0	32	83.2
VL 32 - 076			2.2	22.8	50.2	38	83.7
VL 32 - 089			1.8	26.7	49.3	44.5	82.1
VL 32 - 102			1.6	30.6	49.0	51	81.7
VL 32 - 115			1.4	34.5	50.0	57.5	83.3
VL 32 - 127			1.3	38.1	49.4	63.5	82.2
VL 32 - 139			1.2	41.7	49.4	69.5	82.2
VL 32 - 152			1.1	45.6	49.3	76	82.2
VL 32 - 178			0.9	53.4	49.1	89.0	81.7
VL 32 - 203			0.8	60.9	48.5	102	80.8
VL 32 - 254	0.7	76.2	49.8	127.0	82.9		
VL 32 - 305	6.5 X 2.6		0.5	91.5	49.5	153	82.4





Code	D <sub>H</sub>	D <sub>d</sub>	R		<b>A</b> <b>30%</b>		<b>B</b> <b>50%</b>		
	b x h			+3.000.000	100-200.000				
	mm	mm	kg/mm	mm	kg	mm	kg		
VL 40 - 051	40	20	4.9	15.3	75.1	25.5	125.2		
VL 40 - 064			4	19.2	76.8	32.0	127.9		
VL 40 - 076			3.4	22.8	77.4	38	129.0		
VL 40 - 089			2.9	26.7	77.3	44.5	128.9		
VL 40 - 102			2.5	30.6	76.5	51	127.5		
VL 40 - 115			2.3	34.5	77.7	57.5	129.6		
VL 40 - 127			2	38.1	76.2	63.5	127.0		
VL 40 - 139			1.8	41.7	75.3	69.5	125.5		
VL 40 - 152			1.7	45.6	75.4	76	125.6		
VL 40 - 178			1.4	53.4	74.7	89	124.3		
VL 40 - 203			1.3	60.9	76.4	101	127.3		
VL 40 - 254			1	76.2	76.2	127	127.0		
VL 40 - 305			8.0 X 3.4		0.9	91.5	77.4	152.0	129.1
VL 50 - 064			50	25	8.8	19.2	169.0	32	281.7
VL 50 - 076	7.2	22.8			164.2	38	273.7		
VL 50 - 089	6.1	26.7			162.9	44.5	271.4		
VL 50 - 102	5.3	30.6			162.3	51	270.5		
VL 50 - 115	4.7	34.5			162.2	57.5	270.4		
VL 50 - 127	4.3	38.1			164.0	63.5	273.4		
VL 50 - 139	3.9	41.7			162.5	69.5	270.8		
VL 50 - 152	3.5	45.6			159.5	76	265.9		
VL 50 - 178	3.0	53.4			160.1	89	266.9		
VL 50 - 203	2.6	60.9			158.4	101	264.0		
VL 50 - 254	2.1	76.2			160.1	127	266.8		
VL 50 - 305	10.5 X 4.1				1.8	91.5	160.5	152.0	267.5

# V SERIES

**EN** Light Load Springs

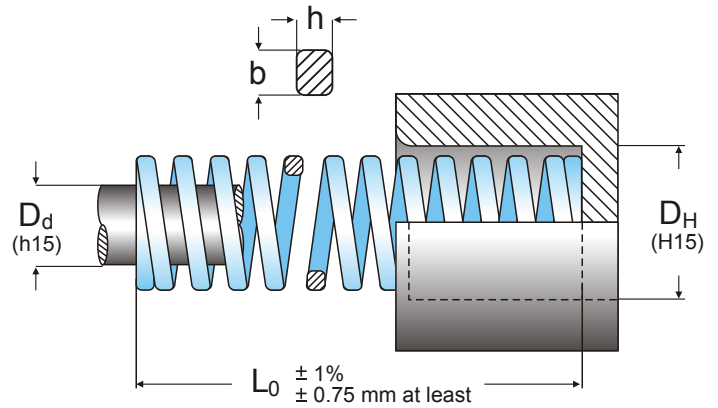


Code	$D_H$	$D_d$	$R$	A		B	
				$b \times h$	30% +3.000.000	40% 100-200.000	
	mm	mm	kg/mm	mm	kg	mm	kg
V 10 - 025	10	5	1.0	7.5	7.7	10.0	10.2
V 10 - 032			0.9	9.6	8.4	12.8	11.1
V 10 - 038			0.7	11.4	8.0	15.2	10.5
V 10 - 044			0.6	13.2	8.1	17.6	10.8
V 10 - 051			0.5	15.3	7.9	20.4	10.4
V 10 - 064			0.4	19.2	8.5	25.6	11.2
V 10 - 076			0.3	22.8	7.4	30.4	9.9
V 10 - 305			1.7 X 1.1		0.1	91.5	10.3
V 12.5 - 025	12.5	6.3	1.8	7.5	13.7	10	18.3
V 12.5 - 032			1.7	9.6	16	12.8	21.4
V 12.5 - 038			1.4	11.4	15.8	15.2	21.1
V 12.5 - 044			1.2	13.2	16.3	17.6	21.7
V 12.5 - 051			1.2	15.3	17.7	20.4	23.8
V 12.5 - 064			0.9	19.2	18.3	25.6	24.3
V 12.5 - 076			0.7	22.8	16.5	30.4	22
V 12.5 - 089			0.6	26.7	14.7	35.6	19.6
V 12.5 - 102			0.4	30.6	12.8	40.8	17
V 12.5 - 305			2.3 X 1.5		0.1	91.5	13.1
V 16 - 025	16	8	2.4	7.5	18.0	10	23.9
V 16 - 032			2.3	9.6	22.4	12.8	29.9
V 16 - 038			2.0	11.4	22.4	15.2	29.9
V 16 - 044			1.7	13.2	23.1	17.6	30.7
V 16 - 051			1.6	15.3	24.0	20.4	32.6
V 16 - 064			1.1	19.2	20.9	25.6	27.9
V 16 - 076			1.0	22.8	23.3	30.4	31.0
V 16 - 089			0.9	26.7	23.5	35.6	31.2
V 16 - 102			0.7	30.6	24.4	40.8	32.4
V 16 - 115			0.3	34.5	23.3	46.0	31.0
V 16 - 305	3.2 X 1.7			91.5	23.4	122.0	31.1
V 20 - 025	20	10	5.7	7.5	42.7	10.0	56.9
V 20 - 032			4.6	9.6	44.1	12.8	58.8
V 20 - 038			3.4	11.4	38.8	15.2	51.6
V 20 - 044			3.1	13.2	4.4	17.6	53.9
V 20 - 051			2.5	15.3	38.3	20.4	51.0
V 20 - 064			2.0	19.2	39.2	25.6	52.2
V 20 - 076			1.6	22.8	37.2	30.4	49.6
V 20 - 089			1.4	26.7	38.1	35.6	50.8
V 20 - 102			1.2	30.6	37.4	40.8	50.0
V 20 - 115			1.1	34.5	38.4	46.0	51.1
V 20 - 127			1.0	38.1	36.9	50.8	49.3
V 20 - 139			0.9	42.0	36.0	56.0	47.9
V 20 - 152			0.8	45.6	34.9	60.8	46.5
V 20 - 305			4.0 X 2.1		0.4	91.5	37.3



Code	D <sub>H</sub>	D <sub>d</sub>	R		A		B		
	b x h				+3.000.000		40%		
	mm	mm	kg/mm	mm	kg	mm	kg		
V 25 - 025	25	12.5	10.2	7.5	76.5	10.0	102		
V 25 - 032			8.2	9.6	78.6	12.8	104.9		
V 25 - 038			6.3	11.4	72.1	15.2	96.1		
V 25 - 044			5.4	13.2	71.2	17.6	95.0		
V 25 - 051			4.5	15.3	68.6	20.4	91.6		
V 25 - 064			3.6	19.2	69	25.6	91.9		
V 25 - 076			2.9	22.8	65.1	30.4	86.8		
V 25 - 089			2.4	26.7	65.4	35.6	87.1		
V 25 - 102			2.2	30.6	65.9	40.8	87.8		
V 25 - 115			1.9	34.5	65.8	46.0	87.7		
V 25 - 127			1.7	38.1	64.9	50.8	86.5		
V 25 - 139			1.6	42.0	65.6	56.0	87.4		
V 25 - 152			1.4	45.6	65.1	60.8	86.8		
V 25 - 178			1.3	53.4	68.1	71.2	90.8		
V 25 - 203			1.1	60.9	64.6	81.2	86.1		
V 25 - 305	5.3 X 2.7		0.7	91.5	65.4	122.0	87.1		
V 32 - 038	32	16	9.6	11.4	109.3	15.2	145.8		
V 32 - 044			8.1	13.2	107	17.6	142.7		
V 32 - 051			6.8	15.3	104.6	20.4	139.4		
V 32 - 064			5.4	19.2	103.8	25.6	138.4		
V 32 - 076			4.5	22.8	102.3	30.4	136.5		
V 32 - 089			3.8	26.7	101.3	35.6	135.0		
V 32 - 102			3.3	30.6	99.9	40.8	133.2		
V 32 - 115			3.0	34.5	102.1	46.0	136.1		
V 32 - 127			2.6	38.1	97.2	50.8	129.5		
V 32 - 139			2.3	42.0	98.5	56.0	131.4		
V 32 - 152			2.2	45.6	100	60.8	133.3		
V 32 - 178			1.9	53.4	99.1	71.2	132.2		
V 32 - 203			1.6	60.9	98.1	81.2	130.9		
V 32 - 254			1.3	76.2	97.2	101.6	129.5		
V 32 - 305			6.7 X 3.3		1.1	91.5	96.1	122.0	128.2
V 40 - 051	40	20	9.4	15.3	143.6	20.4	191.5		
V 40 - 064			7.4	19.2	143.0	25.6	190.6		
V 40 - 076			6.4	22.8	146.5	30.4	195.3		
V 40 - 089			5.2	26.7	138.9	35.6	185.2		
V 40 - 102			4.4	30.6	134.2	40.8	178.9		
V 40 - 115			4.0	34.5	139.3	46.0	185.8		
V 40 - 127			3.8	38.1	143.8	50.8	191.8		
V 40 - 139			3.3	42.0	137.1	56.0	182.8		
V 40 - 152			2.9	45.6	130.3	60.8	173.6		
V 40 - 178			2.6	53.4	137.3	71.2	183.0		
V 40 - 203			2.3	60.9	141.0	81.2	188.0		
V 40 - 254			1.7	76.2	132.1	101.6	176.2		
V 40 - 305			8.0 X 4.0		1.5	91.5	138.1	122.0	184.2
V 50 - 064			50	25	15.9	19.2	305.5	25.6	407.4
V 50 - 076					12.8	22.8	290.7	30.4	387.6
V 50 - 089	11.1	26.7			296.8	35.6	395.8		
V 50 - 102	9.6	30.6			293.4	40.8	391.2		
V 50 - 115	8.3	34.5			285.1	46.0	380.1		
V 50 - 127	7.2	38.1			275.9	50.8	367.9		
V 50 - 139	6.8	42.0			284.9	56.0	379.8		
V 50 - 152	6.1	45.6			279.1	60.8	372.1		
V 50 - 178	5.3	53.4			283.3	71.2	377.6		
V 50 - 203	4.5	60.9			273.4	81.2	364.4		
V 50 - 254	3.6	76.2			272	101.6	362.7		
V 50 - 305	11.1 X 5.5				2.9	91.5	266	122.0	354.7
V 63 - 076	63	38			19.3	22.8	439.5	30.4	586.1
V 63 - 089					16.1	26.7	430.3	35.6	573.8
V 63 - 102					13.4	30.6	408.9	40.8	545.2
V 63 - 115			11.8	34.5	408.2	46.0	544.3		
V 63 - 127			10.5	38.1	400.2	50.8	533.7		
V 63 - 152			8.6	45.6	392.1	60.8	522.8		
V 63 - 178			7.3	53.4	389.4	71.2	519.3		
V 63 - 203			6.3	60.9	383.3	81.2	511.0		
V 63 - 254			4.8	76.2	365.3	101.6	48.5		
V 63 - 305			11.6 X 7.7		3.9	91.5	356.5	122.0	475.3

# B SERIES

**EN** Medium Load Springs

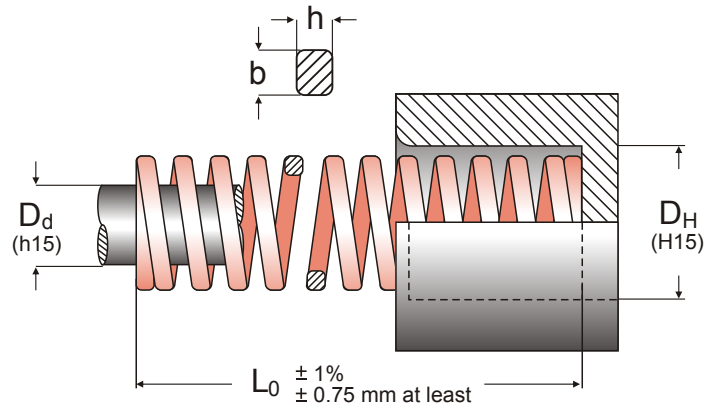


Code	D <sub>H</sub>	D <sub>d</sub>	R	A		B			
				25% +3.000.000	37.5% 100-200.000				
b x h				↓	↓				
	mm	mm	kg/mm	mm	kg	mm	kg		
B 10 - 025	10	5	1.6	6.3	10.3	9.4	15.3		
B 10 - 032			1.3	8.0	10.6	12	15.9		
B 10 - 038			1.2	9.5	11.5	14.3	17.3		
B 10 - 044			1.1	11.0	11.5	16.5	17.3		
B 10 - 051			0.9	12.8	11.6	19.1	17.3		
B 10 - 064			0.8	16.0	12.2	24.0	18.4		
B 10 - 076			0.5	19.0	10.3	28.5	15.4		
B 10 - 305			1.9 X 1.3		0.2	76.3	12.4	114.4	18.7
B 12.5 - 025	12.5	6.3	3.1	6.3	19.3	9.4	28.8		
B 12.5 - 032			2.5	8.0	20.2	12.0	30.4		
B 12.5 - 038			2.2	9.5	20.7	14.3	31.2		
B 12.5 - 044			1.9	11.0	20.8	16.5	31.1		
B 12.5 - 051			1.6	12.8	20.2	19.1	30.2		
B 12.5 - 064			1.2	16.0	19.8	24.0	29.6		
B 12.5 - 076			1.0	16.0	19.8	28.5	29.7		
B 12.5 - 089			0.9	22.3	19.1	33.4	28.7		
B 12.5 - 102			0.6	25.5	16.4	38.3	24.6		
B 12.5 - 305			2.5 X 1.5		0.2	76.3	16.3	114.4	24.5
B 16 - 025	16	8	5.0	6.3	31.7	9.4	47.3		
B 16 - 032			3.8	8.0	30.3	1.0	45.4		
B 16 - 038			3.5	9.5	32.8	14.3	49.5		
B 16 - 044			3.1	11.0	33.7	16.5	50.5		
B 16 - 051			2.7	12.8	34.5	19.1	51.4		
B 16 - 064			2.1	16	33.5	24.0	50.2		
B 16 - 076			1.8	19.0	34.5	28.5	51.7		
B 16 - 089			1.6	22.3	34.6	33.4	51.8		
B 16 - 102			1.4	25.5	35.1	38.3	52.7		
B 16 - 115			1.2	28.8	34.7	43.1	51.9		
B 16 - 305			3.2 X 2.0		0.5	76.3	37.3	114.4	56.0
B 20 - 025			20	10	10.0	6.3	62.9	9.4	93.9
B 20 - 032	7.4	8.0			59.3	12.0	88.8		
B 20 - 038	5.7	9.5			54.3	14.3	81.7		
B 20 - 044	4.8	11.0			53.3	16.5	80.0		
B 20 - 051	4.3	12.8			54.5	19.1	81.2		
B 20 - 064	3.3	16.0			52.7	24.0	79.1		
B 20 - 076	2.6	19.0			48.7	28.5	72.9		
B 20 - 089	2.2	22.3			50.1	33.4	75.0		
B 20 - 102	2.0	25.5			51.5	38.3	77.3		
B 20 - 115	1.8	28.8			53.1	42.1	79.6		
B 20 - 127	1.7	31.8			53.9	47.6	88.6		
B 20 - 139	1.5	35.0			54.0	52.5	80.9		
B 20 - 152	1.3	38.0			51.0	57.0	76.1		
B 20 - 305	4.1 X 2.4				0.6	76.3	47.4	144.4	71.2



Code	D <sub>H</sub>	D <sub>d</sub>	R		A		B		
	b x h				25%		37.5%		
	mm	mm	kg/mm	mm	+3.000.000 kg	mm	100-200.000 kg		
B 25 - 025	25	12.5	15.0	6.3	94.5	9.4	141.0		
B 25 - 032			12.0	8.0	96.3	12.0	144.4		
B 25 - 038			9.5	9.5	90.2	14.3	135.7		
B 25 - 044			8.2	11.0	90.7	16.5	136.0		
B 25 - 051			7.0	12.8	89.6	19.1	133.6		
B 25 - 064			5.4	16.0	86.5	24.0	129.7		
B 25 - 076			4.4	19.0	83.7	28.5	125.6		
B 25 - 089			3.9	22.3	86.9	33.4	130.2		
B 25 - 102			3.4	25.5	85.9	38.3	128.9		
B 25 - 115			2.9	28.8	82.2	43.1	123.1		
B 25 - 127			2.6	31.8	84.0	47.6	125.8		
B 25 - 139			2.4	34.0	82.8	52.5	124.2		
B 25 - 152			2.1	38.0	80.6	57.0	121.0		
B 25 - 178			1.8	44.5	80.8	66.8	121.3		
B 25 - 203			1.6	50.8	81.9	76.1	122.6		
B 25 - 305			5.4 X 3.3		1.0	76.3	79.4	114.4	119.0
B 32 - 038	32	16	18.9	9.5	179.3	14.3	269.9		
B 32 - 044			16.1	11	177.3	16.5	265.9		
B 32 - 051			13.7	12.8	174.9	19.1	261		
B 32 - 064			10.1	16	161.6	24	242.4		
B 32 - 076			8.2	19	156.1	28.5	234		
B 32 - 089			7.1	22.3	157.2	33.4	235.4		
B 32 - 102			6	25.5	152.9	38.3	229.7		
B 32 - 115			5.3	28.8	151.3	43.1	226.4		
B 32 - 127			4.6	31.8	145.4	47.6	217.5		
B 32 - 139			4.3	35.0	151.1	52.5	226.5		
B 32 - 152			3.9	38	146.5	57	219.8		
B 32 - 178			3.3	44.5	147.5	66.8	221.4		
B 32 - 203			2.9	50.8	149.7	76.1	224.3		
B 32 - 254			2.2	63.5	138.6	95.3	208		
B 32 - 305			6.8 X 4.0		1.9	76.3	142.4	114.4	213.6
B 40 - 051			40	20	18.5	12.8	237.7	191	354.6
B 40 - 064	14.3	16.0			228.5	24.0	342.7		
B 40 - 076	11.0	19.0			209.3	28.5	314.0		
B 40 - 089	9.3	22.3			206.3	33.4	309.0		
B 40 - 102	8.3	25.5			210.7	38.3	316.4		
B 40 - 115	7.3	28.8			210.9	43.1	315.7		
B 40 - 127	6.4	31.8			203.4	47.6	304.5		
B 40 - 139	5.9	35.0			205.3	52.5	307.9		
B 40 - 152	5.3	38.0			200.0	57.0	300.0		
B 40 - 178	4.5	44.5			200.1	66.8	300.5		
B 40 - 203	3.7	50.8			190.1	76.1	284.9		
B 40 - 254	3.1	63.5			194.9	95.3	284.9		
B 40 - 305	8.2 X 4.7				2.5	76.3	191.5	114.4	292.6
B 50 - 064	50	25			21.3	16.0	341.1	24.0	511.6
B 50 - 076					17.1	19.0	325.6	28.5	488.4
B 50 - 089					14.3	22.3	318.4	33.4	477.0
B 50 - 102			12.1	25.5	309.6	38.3	464.9		
B 50 - 115			10.8	28.8	311.4	43.1	466.0		
B 50 - 127			9.9	31.8	314.7	47.6	470.9		
B 50 - 139			8.9	35.0	310.6	52.5	465.9		
B 50 - 152			8.2	38.0	310.1	57.0	465.1		
B 50 - 178			7.1	44.5	315.5	66.8	473.6		
B 50 - 203			6.1	50.8	309.9	76.1	464.2		
B 50 - 229			5.2	57.3	297.5	85.9	445.9		
B 50 - 254			4.5	63.5	284.4	95.3	426.8		
B 50 - 305			11.1 X 5.8		3.9	76.3	300.4	114.4	450.4
B 63 - 076			63	38	31.8	19.0	604.7	28.5	906.0
B 63 - 089					26.5	22.3	591.4	33.4	885.0
B 63 - 102					22.5	25.5	574.9	38.3	862.0
B 63 - 115	19.1	28.8			243.4	43.1	823.0		
B 63 - 127	17.1	31.8			544.9	47.6	814.0		
B 63 - 152	13.9	38.0			527.1	57	792.0		
B 63 - 178	11.6	44.5			517.4	66.8	775.0		
B 63 - 203	10.2	50.8			518.2	76.1	776.0		
B 63 - 229	9.1	57.3			521.3	85.9	782.0		
B 63 - 254	8.0	63.5			507.8	95.3	762.0		
B 63 - 305	11.5 X 9.1				6.6	76.3	503.6	114.4	755.0

# R SERIES

## EN Heavy Load Springs



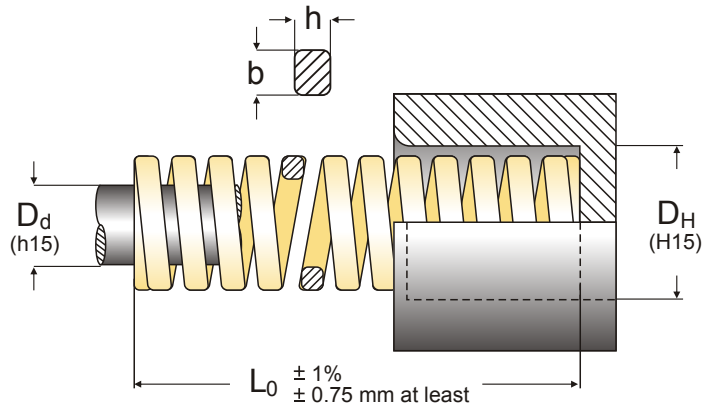
Code	$D_H$	$D_d$	R	A		B	
				20%	30%	20%	30%
b x h			kg/mm	mm	kg	mm	kg
mm			kg/mm	mm	kg	mm	kg
R 10 - 025	10	5	2.3	5	11.3	7.5	16.9
R 10 - 032			1.8	6.4	11.4	9.6	17.1
R 10 - 038			1.7	7.6	13.2	11.4	19.9
R 10 - 044			1.5	8.8	13.5	13.2	20.2
R 10 - 051			1.3	10.2	13.3	15.3	20
R 10 - 064			1.1	12.8	14	19.2	20.9
R 10 - 076			0.8	15.2	11.6	22.8	17.4
R 10 - 305			1.9 X 1.5		0.2	61	13
R 12.5 - 025	12.5	6.3	4.3	5	21.5	7.5	32.2
R 12.5 - 032			3.4	6.4	21.6	9.6	32.5
R 12.5 - 038			3.0	7.6	22.7	11.4	34.1
R 12.5 - 044			2.5	8.8	22.0	13.2	33.2
R 12.5 - 051			2.0	10.2	20.4	15.3	30.1
R 12.5 - 064			1.5	12.8	19.6	19.2	29.4
R 12.5 - 076			1.3	15.2	20.5	22.8	30.7
R 12.5 - 089			1.2	17.8	20.7	26.7	31
R 12.5 - 102			0.9	20.4	17.4	30.6	26.2
R 12.5 - 305			2.4 X 1.9		0.3	61	17.4
R 16 - 025	16	8	7.7	5	38.6	7.5	57.9
R 16 - 032			5.4	6.4	34.4	9.6	51.1
R 16 - 038			4.9	7.6	37.5	11.4	56.4
R 16 - 044			4.4	8.8	38.4	13.2	57.6
R 16 - 051			3.8	10.2	38.6	15.3	57.9
R 16 - 064			3.1	12.8	39.6	19.2	59.4
R 16 - 076			2.6	15.2	39.8	22.8	59.8
R 16 - 089			2.2	17.8	39.3	26.7	59.1
R 16 - 102			2	20.4	40.1	30.6	60.3
R 16 - 115			1.6	23	36.8	34.5	55.3
R 16 - 305	3.1 X 2.5		0.7	61	44.1	91.5	66.3
R 20 - 025	20	10	22	5	110.2	7.5	165.2
R 20 - 032			17.1	6.4	109.7	9.6	164.5
R 20 - 038			13.2	7.6	100.0	11.4	150
R 20 - 044			11.4	8.8	100.6	13.2	150.8
R 20 - 051			9.6	10.2	97.8	15.3	146.7
R 20 - 064			7.4	12.8	94.1	19.2	141.2
R 20 - 076			6.1	15.2	92.5	22.8	138.8
R 20 - 089			5.2	17.8	91.7	26.7	137.5
R 20 - 102			4.5	20.4	92.0	30.6	138.0
R 20 - 115			3.9	23	90.1	34.5	135.2
R 20 - 127			3.5	25.4	88.3	38.1	132.5
R 20 - 139			3.2	28.0	88.5	42.0	132.8
R 20 - 152			2.9	30.4	87.4	45.6	131.2
R 20 - 305			4.0 X 3.3		1.5	61	93.3

Code	D <sub>H</sub>	D <sub>d</sub>	R		A 20% +3.000.000		B 30% 100-200.000		
	b x h				kg/mm		mm	kg	mm
	mm	mm							
R 25 - 025	25	12.5	38.3	5	191.3	7.5	286.9		
R 25 - 032			30.3	6.4	193.9	9.6	290.8		
R 25 - 038			22.3	7.6	169.7	11.4	254.7		
R 25 - 044			19.1	8.8	167.9	13.2	251.7		
R 25 - 051			15.9	10.2	162.3	15.3	243.5		
R 25 - 064			12.5	12.8	160.5	19.2	240.9		
R 25 - 076			10.1	15.2	153.5	22.8	230.2		
R 25 - 089			8.6	17.8	152.5	26.7	228.8		
R 25 - 102			7.4	20.4	151.9	30.6	227.9		
R 25 - 115			6.6	23	152.5	34.5	228.8		
R 25 - 127			5.9	25.45	149.5	38.1	224.2		
R 25 - 139			5.4	28.0	150.6	42.0	225.7		
R 25 - 152			4.9	3.4	148.2	45.6	222.4		
R 25 - 178			4.2	35.6	148.9	53.4	223.3		
R 25 - 203			3.7	40.6	148.2	60.9	222.4		
R 25 - 305			5.5 X 4.2		2.3	61	142.5	91.5	213.7
R 32 - 038	32	16	39.6	7.6	300.8	11.4	451.1		
R 32 - 044			33	8.8	290.8	13.2	436.3		
R 32 - 051			27.7	10.2	282.9	15.3	424.5		
R 32 - 064			21.6	12.8	276.8	19.2	451.1		
R 32 - 076			17.5	15.2	266.6	22.8	400		
R 32 - 089			14.4	17.8	256.0	26.7	384.0		
R 32 - 102			12.4	3.4	253.9	30.6	380.8		
R 32 - 115			10.9	23	251.0	34.5	376.6		
R 32 - 127			9.5	25.4	240.9	38.5	361.4		
R 32 - 139			8.8	28.0	245.6	42.0	368.4		
R 32 - 152			8	30.4	241.8	43.6	362.8		
R 32 - 178			6.9	35.6	244.0	53.4	366		
R 32 - 203			6	40.6	244.7	60.9	367.1		
R 32 - 254			4.7	50.8	240.4	76.2	360.7		
R 32 - 305			7.1 X 5.4		3.9	61	236.4	91.5	354.7
R 40 - 051			40	20	35.7	10.2	364.1	15.3	546.2
R 40 - 064	27.4	12.8			351.2	19.2	526.8		
R 40 - 076	22.3	15.2			339.6	22.8	509.3		
R 40 - 089	19.4	17.8			345.0	26.7	517.4		
R 40 - 102	16.6	20.4			339.2	30.6	508.8		
R 40 - 115	14.5	23			333.1	34.5	499.7		
R 40 - 127	13.1	25.4			331.6	38.1	497.5		
R 40 - 139	11.7	28.0			328.4	42.0	492.7		
R 40 - 152	10.7	30.4			325.6	45.6	488.4		
R 40 - 178	9.1	35.6			323.1	53.4	484.8		
R 40 - 203	7.9	40.6			318.9	60.9	478.3		
R 40 - 254	6.2	50.8			316.1	76.2	474		
R 40 - 305	8.4 X 6.2				5.2	61	317.3	91.5	476
R 50 - 064	50	25			42.1	12.8	539.2	19.2	808.9
R 50 - 076					34.6	15.2	525.6	22.8	788.4
R 50 - 089					29.4	17.8	522.9	26.7	784.4
R 50 - 102			25	20.4	509.8	30.6	764.7		
R 50 - 115			21.9	23	504.4	34.5	756.6		
R 50 - 127			19.6	25.4	497.5	38.1	746.1		
R 50 - 139			17.1	28	479.8	42	719.7		
R 50 - 152			15.7	30.4	477.6	45.6	716.2		
R 50 - 178			13.7	35.6	486.5	53.4	729.9		
R 50 - 203			11.9	40.6	484.5	60.9	726.8		
R 50 - 254			9.1	50.8	461.1	76.2	691.8		
R 50 - 305			11.1 X 5.8		7.4	61	454.2	91.5	681.4
R 63 - 076			63	38	63	15.2	958.2	22.8	1437.2
R 63 - 089					52.5	17.8	935.0	26.7	1402.6
R 63 - 102					44.7	20.4	911.4	30.6	1367.1
R 63 - 115					37.7	23	868.0	34.5	1302.0
R 63 - 127	34	25.4			862.7	38.1	1294.1		
R 63 - 152	27.4	30.4			834.2	45.6	1251.1		
R 63 - 178	23.1	35.6			820.7	53.4	1230.9		
R 63 - 203	20.2	40.6			820.0	60.9	1229.9		
R 63 - 254	15.8	50.8			803.1	76.2	1204.7		
R 63 - 305	11.6 X 12.3				13.1	61	796.4	91.5	1194.6





# G SERIES

**EN** Extra Heavy Load Springs



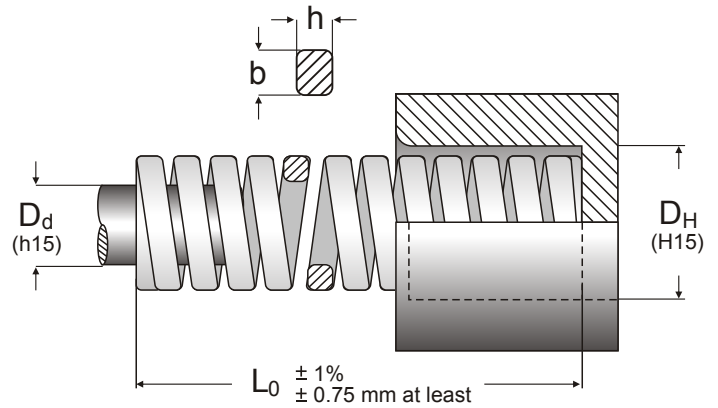
Code	D <sub>H</sub>	D <sub>d</sub>	R	A 17% +3.000.000		B 25% 100-200.000			
				mm	kg	mm	kg		
	b x h		kg/mm	mm	kg	mm	kg		
	mm	mm							
G 10 - 025	10	5	3.8	4.3	16.1	6.3	23.7		
G 10 - 032			2.8	5.4	15.4	8	22.7		
G 10 - 038			2.4	6.5	15.7	9.5	23.0		
G 10 - 044			2.0	7.5	14.7	11	21.5		
G 10 - 051			1.7	8.7	14.7	12.8	21.5		
G 10 - 064			1.3	10.9	14.7	16	21.5		
G 10 - 076			1.1	12.9	14.4	19	21.1		
G 10 - 305			1.7 X 1.1		0.3	51.9	13.8	76.3	20.2
G 12.5 - 025	12.5	6.3	6.0	4.3	25.7	6.3	37.6		
G 12.5 - 032			4.5	5.4	24.2	8.0	35.8		
G 12.5 - 038			3.7	6.5	23.9	9.5	34.9		
G 12.5 - 044			3.1	7.5	23.2	11	34.0		
G 12.5 - 051			2.7	8.7	23.3	12.8	34.2		
G 12.5 - 064			2.2	10.9	23.6	16	34.6		
G 12.5 - 076			1.7	12.9	22.5	19	33.2		
G 12.5 - 089			1.5	15.1	22.3	22.3	32.9		
G 12.5 - 102			1.3	17.3	22.4	25.5	33.0		
G 12.5 - 305			2.3 X 1.5		0.4	51.9	22.7	76.3	33.5
G 16 - 025	16	8	12.0	4.3	51.7	6.3	75.8		
G 16 - 032			9.1	5.4	49	8	72.6		
G 16 - 038			7.4	6.5	47.8	9.5	69.9		
G 16 - 044			6.2	7.5	46.6	11	68.3		
G 16 - 051			5.3	8.7	46.4	12.8	68.2		
G 16 - 064			4.2	10.9	45.8	16	67.2		
G 16 - 076			3.5	12.9	44.8	19	66.1		
G 16 - 089			3.0	15.1	45.3	22.3	67.1		
G 16 - 102			2.6	17.3	45.2	25.5	66.6		
G 16 - 115			2.3	19.6	44.7	28.8	65.8		
G 16 - 305			3.2 X 1.7		0.9	51.9	44.1	76.3	65.4
G 20 - 025			20	10	29.9	4.3	128.5	6.3	188.3
G 20 - 032	22.8	5.4			123.3	8	182.8		
G 20 - 038	18.1	6.5			117.3	9.5	171.6		
G 20 - 044	15.2	7.5			113.9	11	167.2		
G 20 - 051	13.1	8.7			113.5	12.8	167.1		
G 20 - 064	10.1	10.9			110	16	161.6		
G 20 - 076	8.3	12.9			107.5	19	158.3		
G 20 - 089	7.1	15.1			106.9	22.3	158.1		
G 20 - 102	6.2	17.3			106.9	25.5	157.6		
G 20 - 115	5.4	19.6			105.8	28.8	155.7		
G 20 - 127	4.8	21.6			104.5	31.8	154.1		
G 20 - 139	4.4	23.8			104.2	35.0	153.5		
G 20 - 152	4	25.8			102.4	38	151.2		
G 20 - 305	4.0 X 3.3				2.2	51.9	112.1	76.3	165








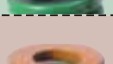


Code	D <sub>H</sub>	D <sub>d</sub>	R		A 17% +3.000.000		B 25% 100-200.000		
	b x h				kg/mm		mm	kg	mm
	mm	mm							
G 25 - 025	25	12.5	201.3	2.3	201.3	6.3	295		
G 25 - 032			206.2	5.4	206.2	8	305.5		
G 25 - 038			229.4	6.5	229.4	9.5	335.3		
G 25 - 044			186.6	7.5	186.6	11	273.8		
G 25 - 051			184.1	8.7	184.1	12.8	270.9		
G 25 - 064			179	10.9	179	16	262.8		
G 25 - 076			172.12	12.9	172.1	19	253.5		
G 25 - 089			170.2	15.1	170.2	22.3	251.3		
G 25 - 102			169.9	17.3	169.9	25.5	250.5		
G 25 - 115			171.3	19.6	171.3	28.8	251.7		
G 25 - 127			168	21.6	168	31.8	247.5		
G 25 - 139			167.1	23.8	167.1	35.0	246		
G 25 - 152			166.9	25.8	166.9	38	246.1		
G 25 - 178			166.3	30.3	166.3	44.5	244.7		
G 25 - 203			165.3	34.5	165.3	50.8	243.6		
G 25 - 305	5.4 X 4.6		163.5	51.9	163.5	76.3	240.5		
G 32 - 038	32	16	53.9	6.5	350.2	9.5	511.8		
G 32 - 044			43.3	7.5	324.6	11	476.1		
G 32 - 051			36	8.7	313.2	12.8	460.8		
G 32 - 064			27.5	10.9	299.2	16	439.3		
G 32 - 076			22.3	12.9	287.4	19	423.5		
G 32 - 089			18.4	15.1	277.7	22.3	410.1		
G 32 - 102			15.8	17.3	273.5	25.5	403.2		
G 32 - 115			14.3	19.6	279.9	28.8	411.3		
G 32 - 127			12.6	21.6	273	31.8	402.2		
G 32 - 139			11.5	23.8	272.5	35.0	401		
G 32 - 152			10.4	25.8	268.3	38	395.4		
G 32 - 178			9	30.3	272.4	44.5	400.4		
G 32 - 203			7.8	34.5	267.4	50.8	393.8		
G 32 - 254			6.2	43.2	267.8	63.5	393.8		
G 32 - 305			7.3 X 5.9		5	51.9	259	76.3	381.4
G 40 - 051	40	20	64.1	8.7	557.2	12.8	819.9		
G 40 - 064			49.7	10.9	541.4	16.0	794.8		
G 40 - 076			38.7	12.9	498.6	19.0	734.5		
G 40 - 089			32.7	15.1	494.4	22.3	730.1		
G 40 - 102			28.7	17.3	495.8	25.5	730.9		
G 40 - 115			25.0	19.6	489.8	28.8	719.7		
G 40 - 127			22.5	21.6	486.9	31.8	716.9		
G 40 - 139			19.4	23.8	461.2	35.0	678.0		
G 40 - 152			17.1	25.8	442	38.0	651.2		
G 40 - 178			14.9	30.3	451.2	44.5	662.7		
G 40 - 203			13.5	34.5	464.4	50.8	684.0		
G 40 - 254			10.9	43.2	471.3	63.5	693.1		
G 40 - 305			8.4 X 7.5		9.0	51.9	464.5	76.3	683.3
G 50 - 064			50	25	72.3	10.9	788.3	16	1157.1
G 50 - 076					58.3	12.9	752.7	19	1108.5
G 50 - 089	48.5	15.1			731.6	22.3	1080.5		
G 50 - 102	41.3	17.3			714.7	25.5	1053.5		
G 50 - 115	35.9	19.6			703.7	28.8	1034.1		
G 50 - 127	32.2	21.6			696.3	31.8	1025.0		
G 50 - 139	29.5	23.8			701.6	35	1031.7		
G 50 - 152	24.4	25.8			628.9	38	926.4		
G 50 - 178	21.9	30.3			664.5	44.5	975.9		
G 50 - 203	19.1	34.5			658.1	50.8	969.0		
G 50 - 254	15.6	43.2			674.2	63.5	991.0		
G 50 - 305	11.5 X 9.0				13.0	51.9	672.3	76.3	988.4
G 63 - 076	63	38			97.1	12.9	1252.6	19	1631.8
G 63 - 089					83.5	15.1	1260.7	22.3	1647.7
G 63 - 102					71.4	17.3	1235.2	25.5	1820.7
G 63 - 115			63.2	19.3	1239.5	28.8	1821.7		
G 63 - 127			57.6	21.6	1244.8	31.8	1832.6		
G 63 - 152			46.7	25.8	1205.2	38	1775.2		
G 63 - 178			39.2	30.3	1186.8	44.5	1743.0		
G 63 - 203			34.4	34.5	1186.0	50.8	1746.2		
G 63 - 254			26.8	43.2	1158.9	63.5	1703.5		
G 63 - 305			11.6 X 7.7		22.2	51.9	1154.0	76.3	1696.6

# A SERIES

**EN** Ultra Heavy Load Springs



Code	$D_H$ mm	$D_d$ mm	$R$ kg/mm	 mm	A 10% +3.000.000		B 15% 100-200.000		
					kg	mm	kg	mm	
	$b \times h$								
A 25 - 064	25	12.5	65.7	6.4	420.4	9.6	630.6		
A 25 - 076			56.7	7.6	431.1	11.4	646.5		
A 25 - 089			47.1	8.9	419.4	13.4	629.1		
A 25 - 102			39.8	10.2	405.8	15.3	608.6		
A 25 - 115			36.7	11.5	422.3	17.3	633.4		
A 25 - 127			33.3	12.7	422.3	19.1	633.4		
A 25 - 152			26.0	15.2	395.4	22.8	593.0		
A 25 - 178			23.5	17.8	417.6	26.7	626.4		
A 25 - 203			20.6	20.3	418.3	30.5	627.4		
A 25 - 305			5.6 X 7.5		13.9	30.5	423.1	45.8	634.6
A 32 - 064	32	16	109.9	6.4	703.0	9.6	1054.4		
A 32 - 076			89.1	7.6	677.5	11.4	1016.3		
A 32 - 089			73.5	8.9	654.7	13.3	982.1		
A 32 - 102			63.5	10	645.0	15.3	967.6		
A 32 - 115			57.1	12	656.9	17.2	985.3		
A 32 - 127			50.6	13	642.5	19.05	963.8		
A 32 - 152			41.6	15	632.6	22.8	948.8		
A 32 - 178			36.0	18	640.6	26.7	960.8		
A 32 - 203			31.0	20	629.4	30.4	944.2		
A 32 - 254			24.8	25	630.1	38.1	945.1		
A 32 - 305	7.5 X 9.2		20.0	31	609.8	45.7	914.6		
A 40 - 089	40	20	89.8	8.9	798.9	13.4	1198.3		
A 40 - 102			77.7	10.2	792.7	15.3	1189.2		
A 40 - 115			69.3	11.5	796.5	17.3	1194.7		
A 40 - 127			63.4	12.7	805.7	19.1	1208.6		
A 40 - 152			51.9	15.2	789.2	22.8	1183.7		
A 40 - 178			43.8	17.8	778.9	26.7	1168.3		
A 40 - 203			38.1	20.3	774.4	30.5	1161.6		
A 40 - 254			30.2	25.4	766.8	38.1	1150.4		
A 40 - 305			8.4 X 7.5		25.1	30.5	768.1	45.8	1148.0
A 50 - 089			50	25	143.8	8.9	1280.0	13.4	1920.0
A 50 - 102	123.9	10.2			1264.1	15.3	1896.2		
A 50 - 115	109.8	11.5			1262.1	17.3	1893.2		
A 50 - 127	98.7	12.7			1254.0	19.1	1880.9		
A 50 - 152	82.2	15.2			1249.6	22.8	1874.5		
A 50 - 178	71.2	17.8			1267.2	26.7	1901.0		
A 50 - 203	62.4	20.3			1267.2	30.5	1900.8		
A 50 - 254	48.1	25.4			1222.9	38.1	1834.3		
A 50 - 305	11.5 X 9.0				39.6	30.5	1207.1	45.8	1810.6

Series	Standard	Color	Load	1.000.000 cycles	500.000 cycles	300.000 cycles	Solid deflection <small>Do not use</small>
<b>SF</b>		Yellow (RAL 1004)	Extra Light	40 % L <sub>0</sub>	45 % L <sub>0</sub>	50 % L <sub>0</sub>	58 % L <sub>0</sub>
<b>SL</b>		Blue (RAL 5012)	Light	32 % L <sub>0</sub>	36 % L <sub>0</sub>	40 % L <sub>0</sub>	48 % L <sub>0</sub>
<b>SM</b>		Red (RAL 3000)	Medium	25.6 % L <sub>0</sub>	28.8 % L <sub>0</sub>	32 % L <sub>0</sub>	38 % L <sub>0</sub>
<b>SH</b>		Green (RAL 6002)	Heavy	19.2 % L <sub>0</sub>	21.6 % L <sub>0</sub>	24 % L <sub>0</sub>	28 % L <sub>0</sub>
<b>SB</b>		Brown (RAL 8003)	Extra-Heavy	16 % L <sub>0</sub>	18 % L <sub>0</sub>	20 % L <sub>0</sub>	24 % L <sub>0</sub>
<b>L</b>		Not Painted, Oiled	-	-	-	-	-
<b>SR</b>		Ivory (RAL 1014)	-	-	50 % L <sub>0</sub>	-	60 % L <sub>0</sub>

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