

LIFTING EYE BOLTS / CAST-IN BUSH

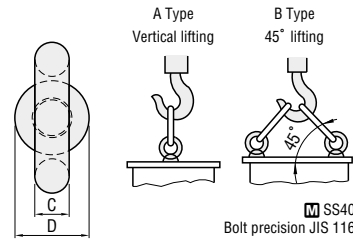
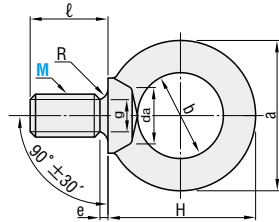
HOOKS

—BOLT TYPE / LARGE HEAD BOLT TYPE—

Lifting eye bolts —For vertical lifting—

RoHS

CHI



SS400
Bolt precision JIS 1168

M×P	a	b	C	D	H	ℓ	e	g	R	da	Max. allowable load N (kgf)		Catalog No.	Base unit price	Volume discount unit price		
											A: Vertical, 1 bolt	B: 45°, 2 bolts			Type	M	1~19 pieces
6×1.0	24.9	14.5	5.2	12.8	28.5	15	3	4.7	1.0	7.9	392 (40)	392 (40)	CHI	1~19 pieces	20~49	50~99	100~200
8×1.25	32.6	20	6.3	16	33.3	15	3	6	1.0	9.2	785 (80)	785 (80)					
10×1.5	41	25	8	20	41.5	18	4	7.7	1.2	11.2	1471 (150)	1471 (150)					
12×1.75	50	30	10	25	51	22	5	9.4	1.4	14.2	2157 (220)	2157 (220)					
16×2.0	60	35	12.5	30	60	27	5	13	1.6	18.2	4413 (450)	4413 (450)					
20×2.5	72	40	16	35	71	30	6	16.4	2	22.4	6178 (630)	6178 (630)					
24×3.0	90	50	20	45	90	38	8	19.6	2.5	26.4	9316 (950)	9316 (950)					
30×3.5	110	60	25	60	110	45	8	25	3	33.4	14710 (1500)	14710 (1500)					
36×4.0	133	70	31.5	70	132	55	10	30.3	3	39.4	22555 (2300)	22555 (2300)					
42×4.5	151	80	35.5	80	151	65	12	35.6	3.5	45.6	33342 (3400)	33342 (3400)					
48×5.0	170	90	40	90	170	70	12	41	4	52.6	44130 (4500)	44130 (4500)					

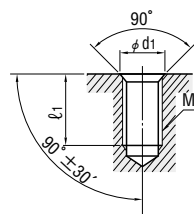
•Load (kgf)=Load (N)×0.101972

Quotation

Installation

Tighten the lifting eye bolt lightly by hand so that the seat of the bolt is firmly in contact with the plate.

Catalog No.	d ₁	ℓ ₁
6	9	17
8	11	17
10	13	20
12	16	24
16	20	30
20	24	34
24	28	42
30	36	50
36	42	60
42	48	70
48	56	76

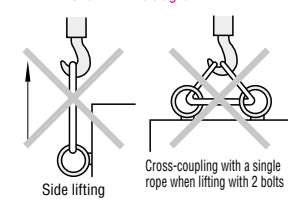


When 2 lifting eye bolts are used for lifting, install the bolts so that they face in the same direction.



Caution

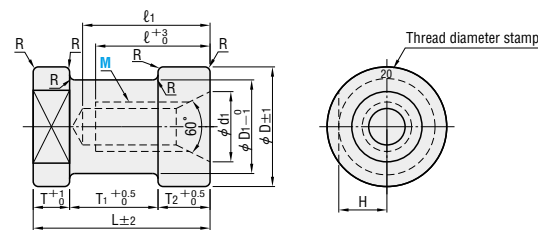
Never attempt the types of lifting shown in the diagram.



Cast-in bush

RoHS

CSN



S35C

Lifting bolt	Max. allowable load N (kgf)	M×P	D	D ₁	d ₁	ℓ	ℓ ₁	L	T	T ₁	T ₂	H	R	Catalog No.		Base unit price
														Type	M	
2 bolts	3730 (380)	12×1.75	38	28	18	30	40	55	10	30	15	14	2	CSN	12	1~19 pieces
Vertical, 1 bolt	2160 (220)	16×2.0	46	36	22	35	45	55	10	30	15	18	2			
45°, 2 bolts	6620 (675)	20×2.5	48	38	28	45	55	70	15	35	20	19	2			
	8830 (900)	24×3.0	55	45	36	55	65	85	20	45	20	22.5	2			
	13340 (1360)	30×3.5	65	52	42	65	75	95	25	50	20	26	3			
	19810 (2020)	36×4.0	85	70	48	75	90	110	30	55	25	35	3			

•Load (kgf)=Load (N)×0.101972

Order	Catalog No.
CHI	10
CSN	24

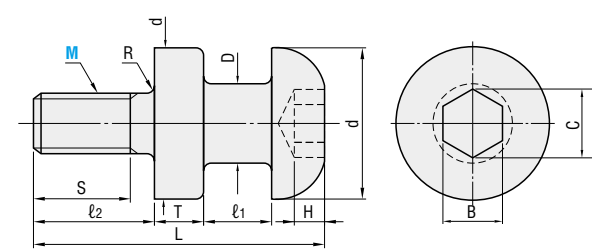
Price Quotation

Days to Ship Quotation

Example

RoHS

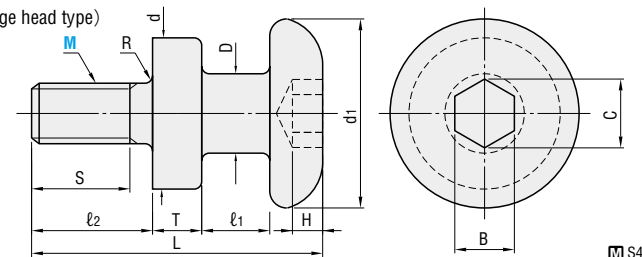
CHN



S45C
Black oxide (Fe₃O₄)

RoHS

CHNL (Large head type)

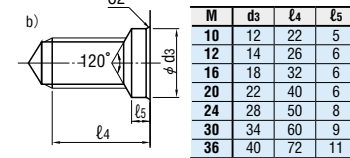
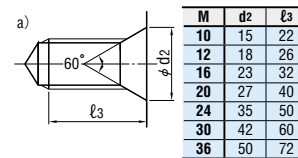


S45C
Black oxide (Fe₃O₄)

M×P	D	d	d ₁	ℓ ₁		ℓ ₂	S	T	L		R	H	B	C	N/piece (kgf/piece) (For steel, safety factor 10)	Catalog No.			
				CHN	CHNL				CHN	CHNL						Type	M	CHN	CHNL
10×1.5	13	32	42	10	18	20	16	8	46	54	1.5	5	8	9.2	2452 (250)	CHN CHNL	10	16	20
12×1.75	16	36	48	13	20	24	20	10	57	64	1.5	6	10	11.7	3530 (360)				
16×2.0	20	40	52	18	25	30	25	13	75	82	2	9	14	16.3	6669 (680)				
20×2.5	25	48	62	20	28	37	32	16	90	98	2	12	17	19.8	10395 (1060)				
24×3.0	32	58	76	25	33	47	40	20	111	119	2.5	13	19	22.1	15004 (1530)				
30×3.5	36	68	88	30	40	56	48	22	131	141	3	16	22	25.6	23830 (2430)				
36×4.0	40	78	100	30	40	68	58	25	148	158	3	18	27	31.4	34814 (3550)				

•Load (kgf)=Load (N)×0.101972

Installation The bolt holes for installation should be machined as shown in figure a) or b) below. The head of CHN and CHNL should be in tight contact with the side surface of the die set when the bolts are used.

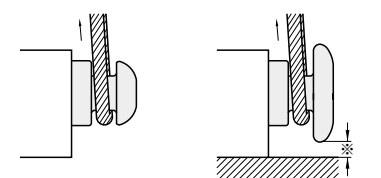


Order Catalog No. CHNL 20

Days to Ship Quotation

Price Quotation

Example

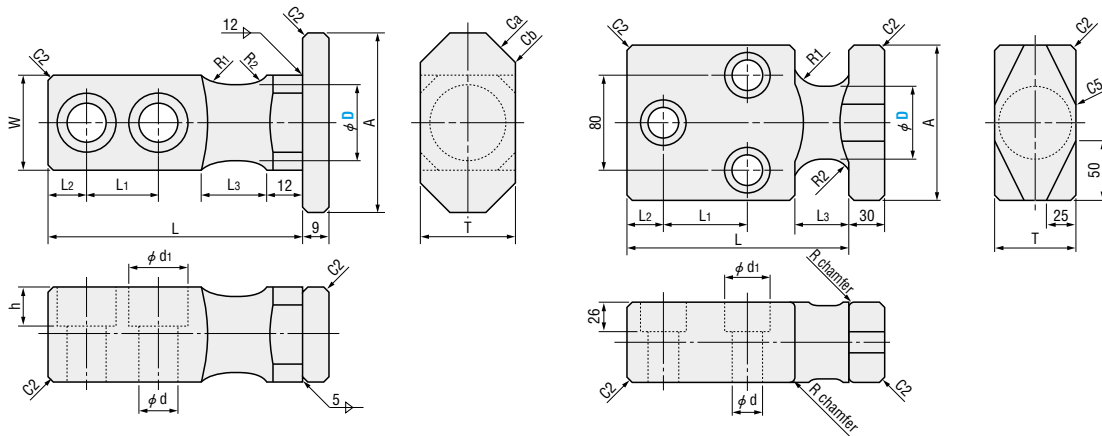


Install so that the wire can be passed under the hook without contacting the bottom surface. <Large head type>

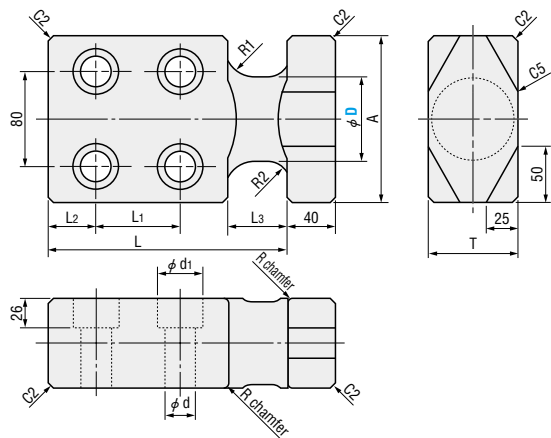


CHPH 25~50

CHPH 60



CHPH 70



SS400

A	L	L1	L2	L3	W	R1	R2	d	d1	T	Ca	Cb	Allowable load N/piece(kgf/piece)	Catalog No.	
														Type	D
60	85	24	13	22	32	15	10	13	20	32	10	2	7845(800)	CHPH	25
80	120	44	16	32	40			18	26	40			14710(1500)		32
90	140	52	18	40	50	20	12	22	32	50	20	5	23536(2400)		40
120	160	59	22	45	60			60	20	34323(3500)			50		
130	185	70	30	50	—	15	26	38	68	—	—	58840(6000)	60		
140	200		40						75	—	—	78453(8000)	70		

•Load (kgf)=Load N×0.101972



Order

Catalog No.
CHPH 60



Days to Ship

Quotation



Price

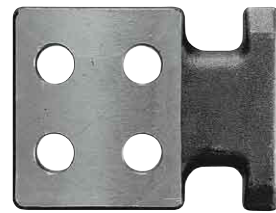
Quotation

HOOKS

—PLATE TYPE—

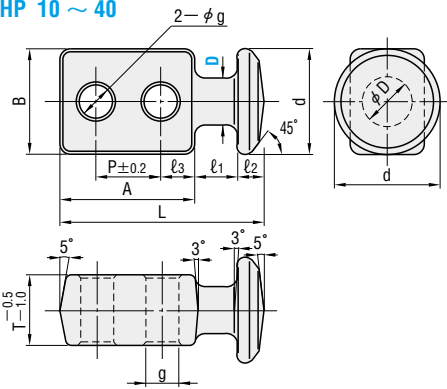
HOOKS

—LARGE HEAD TYPE—

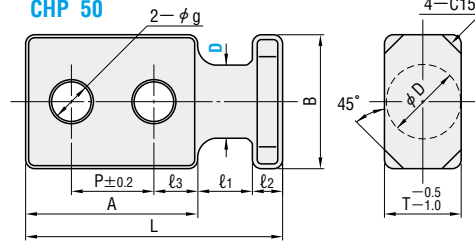


RoHS

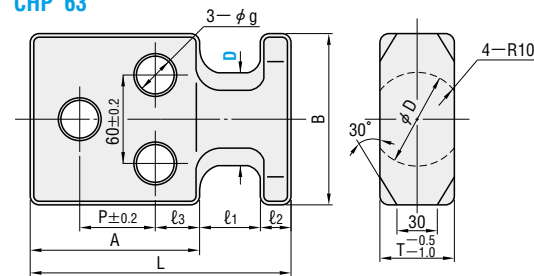
CHP 10 ~ 40



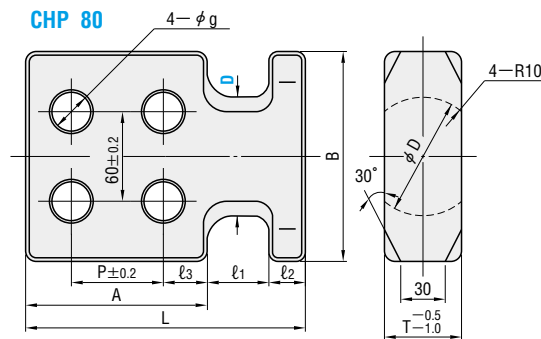
CHP 50



CHP 63



CHP 80



SS400

d	B	T	L	A	ℓ ₁	ℓ ₂	ℓ ₃	P	g	N/piece (kgf/piece) For steel, safety factor 10	Catalog No.		Base unit price 1 ~ 19 pieces
											Type	D	
28	28	18	50	32	10	8	8	16	7	1569 { 160 }	CHP	10	Quotation
32	32	20	56	38	10	8	10	18	9	3530 { 360 }		12	
36	36	24	67	46	13	8	12	22	11	4511 { 460 }		16	
40	40	26	88	60	18	10	15	30	14	5492 { 560 }		20	
48	48	35	92	60	20	12	15	30	14	6570 { 670 }		25	
55	55	40	118	80	25	13	20	40	18	12160 { 1240 }		32	
70	70	50	138	93	30	15	24	45	22	19123 { 1950 }		40	
—	90	50	170	115	35	20	30	55	26	27459 { 2800 }		50	
—	115	50	175	115	40	20	30	55	26	39227 { 4000 }		63	
—	140	50	185	120	40	25	30	60	26	50995 { 5200 }		80	

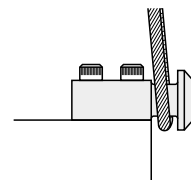
•Load [kgf] = Load N × 0.101972

Order **Catalog No.**
CHP 25

Price **Quotation**

Days to Ship **Quotation**

Example **EX** The direction of lifting must be the same direction as the bolt shaft.



■CHP50・63・80 installation bolts (strength class 10.9)

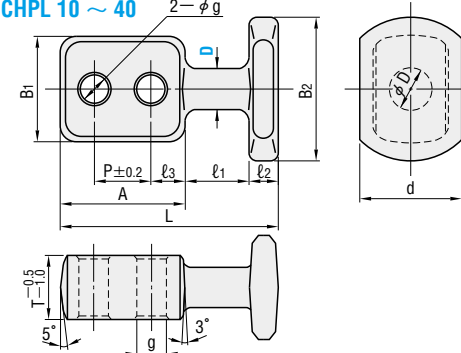
Length of threaded part	Catalog No.	Type	M	L
Full thread	CB 24-80	—	—	—
90	—	—	—	—
100	—	—	—	—
110	—	—	—	—
120	—	—	—	—

Use bolts of strength class 12.9 or 10.9 as defined in JIS B 1176 or JIS B 1180.
Detailed dimensions, other sizes, delivery, and prices **P.809**

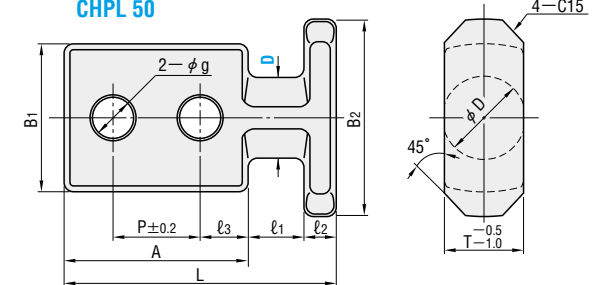


RoHS

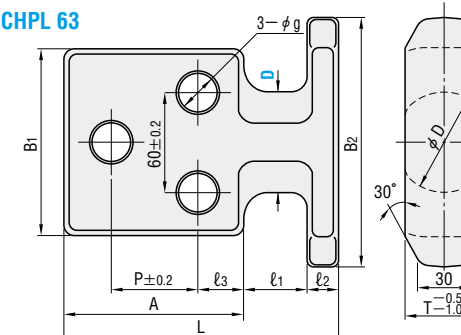
CHPL 10 ~ 40



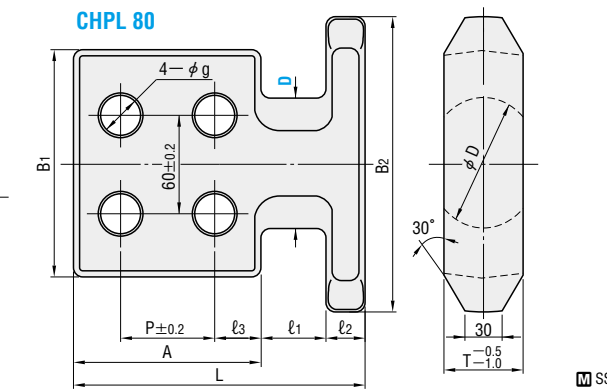
CHPL 50



CHPL 63



CHPL 80



SS400

d	B ₁	B ₂	T	L	A	ℓ ₁	ℓ ₂	ℓ ₃	P	g	N/piece (kgf/piece) For steel, safety factor 10	Catalog No.		Base unit price 1 ~ 19 pieces
												Type	D	
28	28	38	18	61	32	20	9	8	16	7	1569 { 160 }	CHPL	10	Quotation
32	32	44	20	67	38	20	9	10	18	9	3530 { 360 }		12	
36	36	50	24	78	46	20	12	12	22	11	4511 { 460 }		16	
40	40	56	26	97	60	25	12	15	30	14	5492 { 560 }		20	
48	48	68	35	98	60	25	13	15	30	14	6570 { 670 }		25	
55	55	77	40	125	80	30	15	20	40	18	12160 { 1240 }		32	
70	70	100	50	143	93	35	15	24	45	22	19123 { 1950 }		40	
—	90	120	50	170	115	35	20	30	55	26	27459 { 2800 }		50	
—	115	155	50	175	115	40	20	30	55	26	39227 { 4000 }		63	
—	140	180	50	185	120	40	25	30	60	26	50995 { 5200 }		80	

※□: Indicates dimensions which are different from CHP.

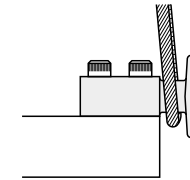
•Load [kgf] = Load N × 0.101972

Order **Catalog No.**
CHPL 25

Price **Quotation**

Days to Ship **Quotation**

Example **EX** The direction of lifting must be the same direction as the bolt shaft.



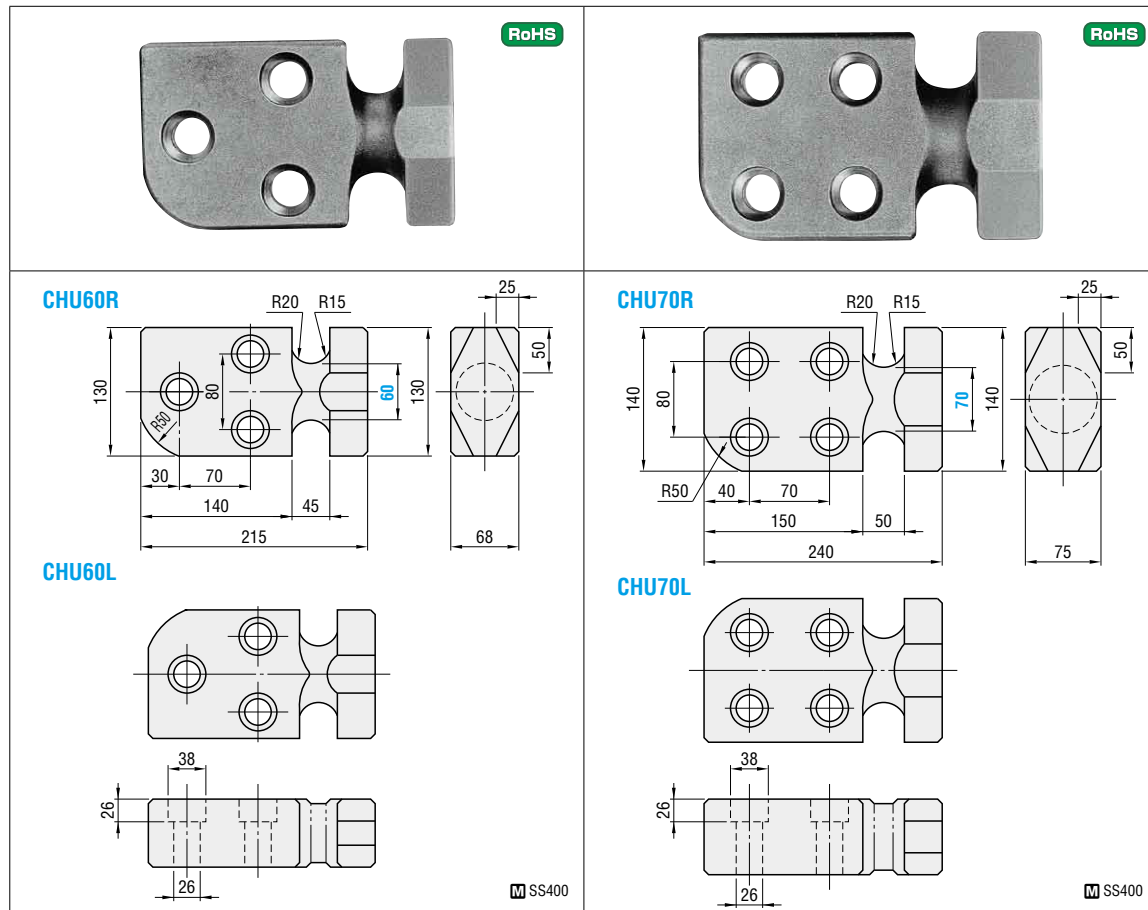
■CHPL50・63・80 installation bolts (strength class 10.9)

Length of threaded part	Catalog No.	Type	M	L
Full thread	CB 24-80	—	—	—
90	—	—	—	—
100	—	—	—	—
110	—	—	—	—
120	—	—	—	—

Use bolts of strength class 12.9 or 10.9 as defined in JIS B 1176 or JIS B 1180.
Detailed dimensions, other sizes, delivery, and prices **P.809**

LIFTING HOOKS, INSERT TYPE

CAST-IN HOOKS AND T-SHAPED BOLTS



N/piece (kgf/piece) (For steel, safety factor 10)	Catalog No.	Base unit price 1 ~ 19 pieces
42170 {4300}	CHU	60R
47070 {4800}		60L
		70R
		70L

Load (kgf) = Load N × 0.101972

CHU installation bolts (strength class 10.9)
Use bolts of strength class 12.9 or 10.9 as defined in JIS B 1176 or JIS B 1180.

Length of threaded part	Catalog No.
Full thread	Type M—L
60	CB 24—80
	90
	100
	110
	120

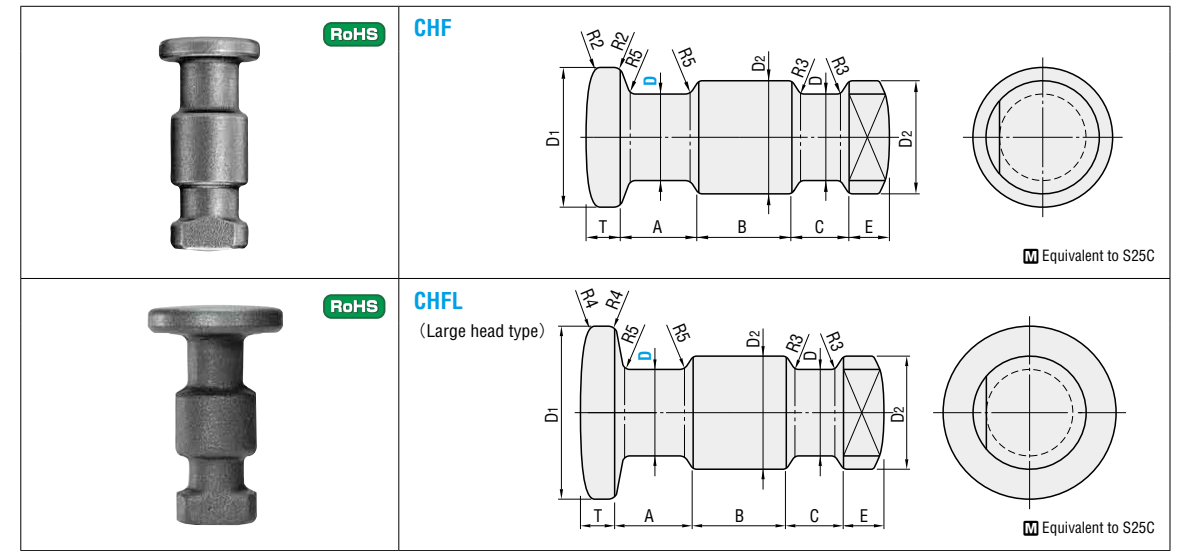
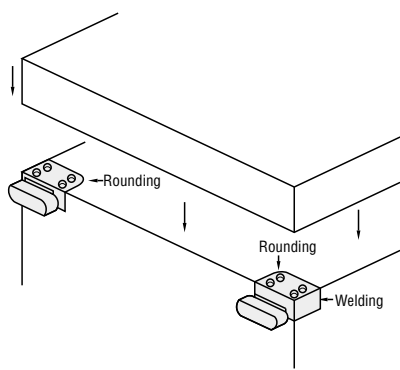
Detailed dimensions, other sizes, delivery, and prices **P.809**

Order **Catalog No.**
CHU 60R

Days to Ship **Quotation**

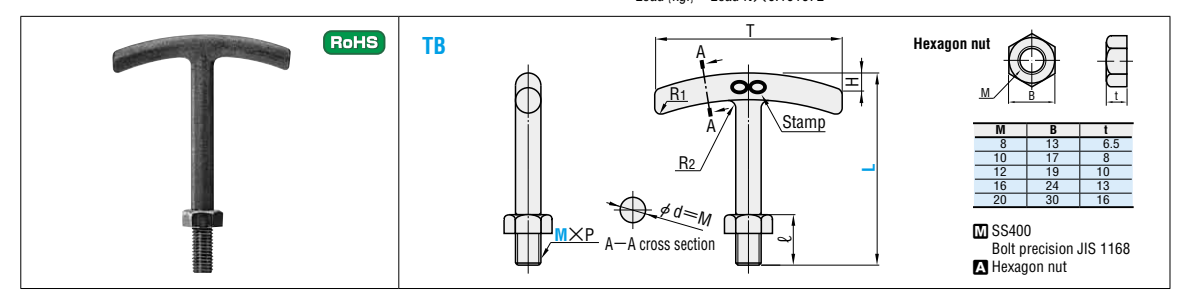
Price **Quotation**

Example



D	D1		D2	T		A	B	C	E	N/piece (kgf/piece)	Catalog No.			
	CHF	CHFL		Type	D						CHF	CHFL		
25	46	60	36	12	12.6	25	30	15	16.6	7940 {810}	CHF CHFL	25		
32	55	70	42	12.4	13.1	30	40	20	16.8	13140 {1340}		32		
36	60	80	46	17.6	18.5	35	45	25	17	16570 {1690}		36		
40	70	90	55	18.1	18.9	35	60	30	17.4	20500 {2090}		40		
50	90	120	70	23.9	25.2	35	70	40	18.1	32070 {3270}		50		
70	120	140	100	30.2	31.1	40	80	40	19.4	62860 {6410}		70		

Load (kgf) = Load N × 0.101972



M×P	H	R1	R2	T	ℓ	N/piece (kgf/piece)	Catalog No.			
							Type	M	L	Base unit price 1 ~ 19 pieces
8×1.25	8	2	3	80	22	686 {70}	TB	8	100	
10×1.5	8	3	5	80	28	981 {100}		10	110	
12×1.75	8	3	5	90	34	1471 {150}		12	125	Quotation
16×2.0	10	5	6	100	45	2942 {300}		16	135	
20×2.5	10	5	8	120	50	3923 {400}		20	160	

Load (kgf) = Load N × 0.101972

Order **Catalog No.** — L
CHF 50
TB 12 — 125

Days to Ship **Quotation**

Price **Quotation**

Example Cast-in side

Caution **Incorrect examples** Never attempt the types of lifting shown in the diagram. (TB)

Side lifting 2-bolt lifting

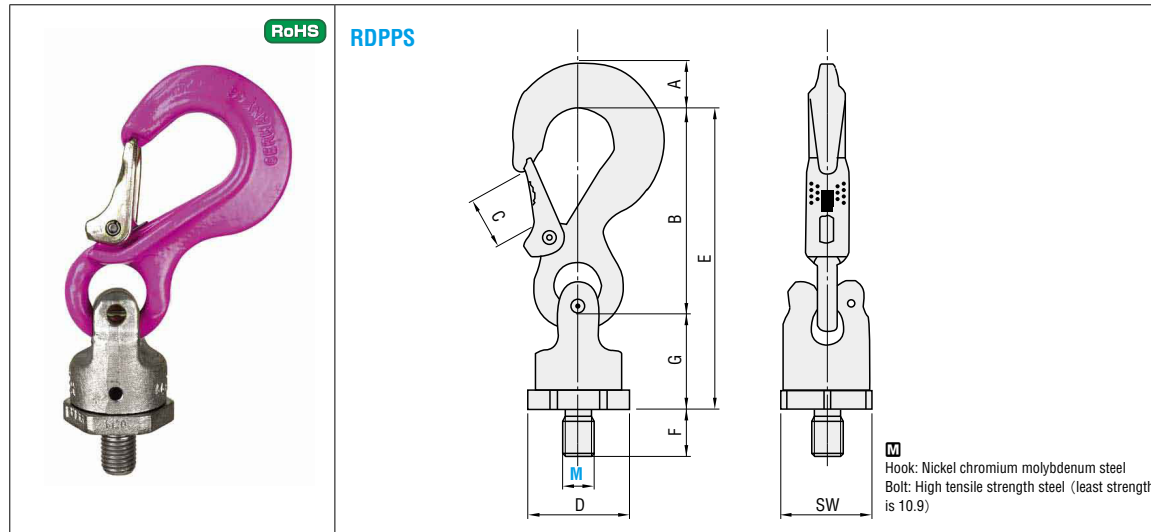
T-shaped bolts Installation
Screw the bolt into the plate lightly with your hand, then tighten the hex nut firmly so that the nut seat is in tight contact with the surface of the plate.
※Tightening the nut last allows you to adjust the direction of the T-bar as needed.

COMPONENTS FOR LIFTING AND DIE STORING



POWER POINT STARS

— COBRA HOOK SET —



M
Hook: Nickel chromium molybdenum steel
Bolt: High tensile strength steel (least strength is 10.9)

M×P	A	B	C	D	E	F	G	SW (spanner size)	Self weight (kg)	Tightening torque (Nm)	Catalog No.	
											Type	M
12×1.75	13	75	18	40	116	18	41	36	0.4	10	RDPPS	12
16×2.0	20	97	25	46	147	25	50	41	0.9	30		16
20×2.5	28	126	30	61	187	30	61	55	1.7	70		20
24×3.0	36	150	35	78	227	36	77	70	3.5	150		24
30×3.5	37	174	40	95	267	45	93	85	7.5	225		30
36×4.0	49	208	48	100	310	54	102	90	9.2	410		36

Maximum permissible weight (t)

Hoisting method	No. of hooks	Hoisting angle	RDPPS					
			M					
			12	16	20	24	30	36
	1	0	0.6	1.5	2.5	4	6.7	10
	2	0	1.2	3	5	8	13.4	20
	1	90	0.6	1.5	2.5	4	5	8
	2	90	1.2	3	5	8	10	16
	2	0 to 45	0.8	2.1	3.5	5.6	7.1	11.2
		45 to 60	0.6	1.5	2.5	4	5	8
	2	Asymmetrical	0.6	1.5	2.5	4	5	8
	3 OR 4	0 to 45	1.3	3.2	5.3	8.4	10.5	16.8
		45 to 60	0.9	2.2	3.8	6	7.5	12
	3 OR 4	Asymmetrical	0.6	1.5	2.5	4	5	8
Tightening torque			10	30	70	150	225	410

Feature

The cobra hooks and double ball bearing is suitable for reverse rotation. No need to use fitting devices like shackles, and it reduces hoisting time.

Power Point Star is an all-directions eye bolt with double bearing, which is recommended for reverse rotation. The cobra hook can be used with any available hoisting equipment such as wire rope, chain sling or belt sling. The double ball bearing in the rings enable to move smoothly even on-load condition, and enhance performance and safety.

- Smooth rotation with the help of two layers of bearing even when the hook is on-load.
- Any hoisting equipment can be used such as a belt, a wire and a chain.
- Small in size, and light in weight. This hook is equivalent to Grade 100.
- Comes in various sizes from M12-M36.
- Conforms to the Machinery Directive 2006/42/EG.
- Certified for BG safety and has the CE mark.

Suitable for various hoisting equipments

- Smooth rotation by double ball bearing prevent on-load entanglement.
- Made of tough nickel chromium molybdenum steel.
- All products have passed a magnetism test.

About pink coating

The surface is coated with the eye catching fluorescent pink powder coating. The color changes when the surrounding temperature is between 225°C and 380°C so that strength deterioration can be visually identified.

* This product cannot be used in the temperature over 380°C.

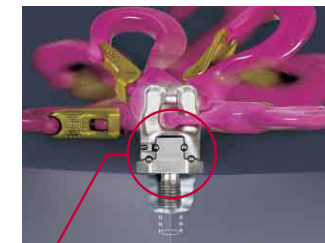


Notes

- Power Point Star is designed to be able to rotate while bearing load; however, is not suitable for long-term rotations.

Mounting the rings on the objects to be hoisted

- Single usage: Mount the rings on the center of the object to be hoisted.
- Double usage: Mount the rings on or equidistant from the center of the object to be hoisted.
- Triple or quadruple usage: Mounts the rings symmetrically and, if possible, on the same surface.



Mounted double ball bearing
Smooth rotation in 360° even when the rings bear a load



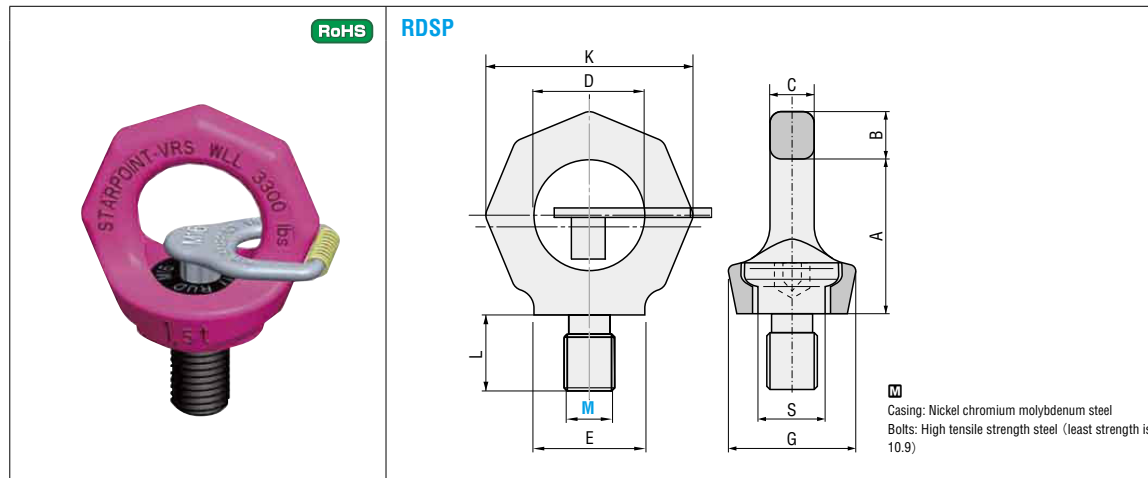
Appropriate height of the horizontal design where the hook does not come in contact with the hoisted object giving it an attractive look.



Catalog No.
RDPPS12



Days to Ship **Quotation**



M×P	A	B	C	D	E	G	K	L	S	Self weight (kg)	Tightening torque (Nm)	Catalog No.	
												Type	M
6×1.0	27	9	7	20	23	28	37	9	13	0.07	5	RDSP	6
8×1.25	34	11	8.5	25	25	28	47	12	16	0.1	10		8
10×1.5	34	11	8.5	25	25	28	47	15	16	0.1	10		10
12×1.75	42	13	10	30	30	34	56	18	20	0.2	25		12
16×2.0	49	15	14	35	35	40	65	24	23.5	0.3	60		16
20×2.5	57	17	16	40	42	50	75	30	29	0.5	115		20
24×3.0	69	21	19	48	48	60	90	36	35	0.9	190		24
30×3.5	86	26	24	60	60	75	112	45	44	1.7	330		30
36×4.0	103	32	29	72	75	90	135	54	53	2.9	590		36
42×4.5	120	38	34	82	85	105	158	63	61.5	4.6	925		42
48×5.0	137	43	38	94	100	120	180	72	70.5	7	1400	48	

Maximum permissible weight (t)

Hoisting method	No. of Star Points	Hoisting angle	RDSP										
			M										
			6	8	10	12	16	20	24	30	36	42	48
	1	0	0.5	1	1	2	4	6	8	12	16	24	32
	2	0	1	2	2	4	8	12	16	24	32	48	64
	1	90	0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12
	2	90	0.2	0.6	0.8	1.5	3	4.6	6.4	9	14	18	24
	2	0 to 45	0.14	0.42	0.56	1	2.1	3.2	4.5	6.3	9.8	12.6	16.8
		45 to 60	0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12
	2	Asymmetrical	0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12
	3 OR 4	0 to 45	0.21	0.63	0.8	1.5	3.1	4.8	6.7	9.4	14.7	18.9	25
		45 to 60	0.15	0.45	0.6	1.1	2.2	3.4	4.8	6.7	10.5	13.5	18
	3 OR 4	Asymmetrical	0.1	0.3	0.4	0.7	1.5	2.3	3.2	4.5	7	9	12
Tightening torque			5	10	10	25	60	115	190	330	590	925	1400

Order Catalog No. Days to Ship **Quotation**

Feature

Hanging an eyebolt in the horizontal direction can be done safely which was difficult to do before

The load in horizontal direction towards an eyebolt is prohibited, but in case of Star Point, even if the bolt is fixed, the rings rotate 360° in the direction of the load, therefore; it is not needed to match the each ring surface with pulling direction. Moreover, it prevents the accident which may be occurred by loosing of an eye bolt due to negligence in the adjustment of the ring surface. In addition, you can ensure the safety even if you hang horizontally which is prohibited for fixed eyebolt.

- Specialized tools are not required. A product comes with a mounting key
- After the bolt is fixed, the ring rotate in the direction of the load.
- All products have passed a magnetism test
- Can be loaded in all directions and is safety factor 4
- Conforms to the Machinery Directive 2006/42/EG
- Recommended installation surface is SS400 or higher

About pink coating

The surface is coated with the eye catching fluorescent pink powder coating. The color changes when the surrounding temperature is between 225°C and 380°C so that strength deterioration can be visually identified.

* This product cannot be used in the temperature over 380°C.



Do not hang an eyebolt in horizontal way!

The deformation of an eye part and a screw part will cause dangerous situation.

Don't you thing your eye bolts are deformed?

Before an accident occurs... Star Point is very safe to use even in a horizontal position.

Lifting Point Series equipment are recommended.

How to mount



Insert the key in the upper part of the bolt to fix the ring with the bolt.

This enables manual installation of the bolt.

After installing the bolt, remove the key so that the ring turns to 360° way in the direction of the load, without loosening the bolt.

The spring can be removed for the separate safekeeping of the key.

Notes

- Firmly attach to the surface.
- When lifting, the key has to be removed from the bolt.
- For reverse rotation, bearings equipped products are recommended such as Vario Ring or Power Point Star.

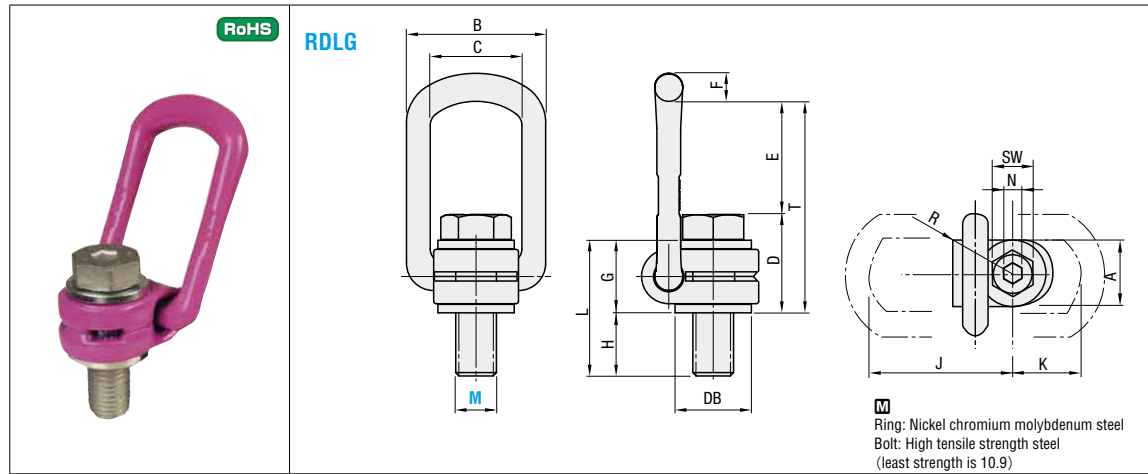
Mounting the rings on the objects to be hoisted

- Single usage: Mount the rings on the center of the object to be hoisted.
- Double usage: Mount the rings on or equidistant from the center of the object to be hoisted.
- Triple or quadruple usage: Mount the rings symmetrically and, if possible, on the same surface.





LOAD RINGS



M
Ring: Nickel chromium molybdenum steel
Bolt: High tensile strength steel
(least strength is 10.9)

M×P	A	B	C	D	E	F	G	H	J	K	L	N	R	T	DB	SW	Self weight (kg)	Tightening torque (Nm)	Catalog No. Type	M
8×1.25	30	54	34	35	40	12	29	11	75	45	40	5	32	75	24	13	0.3	30	RDLG	8
10×1.5	30	54	34	36	39	12	29	16	75	45	45	6	32	75	24	17	0.32	60		10
12×1.75	32	54	34	37	38	12	29	21	75	45	50	8	32	75	26	19	0.33	100		12
16×2.0	33	56	36	46	39	13.5	36	24	86	47	60	10	38	85	30	24	0.55	150		16
20×2.5	50	82	54	55	55	16.5	43	32	113	64	75	12	48	110	45	30	1.3	250		20
24×3.0	50	82	54	58	67	18	43	37	130	78	80	14	48	125	45	36	1.5	400		24
30×3.5	60	103	65	80	67	22.5	61	49	151	80	110	17	67	147	60	46	3.1	500		30
36×4.0	60	103	65	72	74	22.5	55	52	151	80	107	—	67	146	60	55	3.4	700		36
42×4.5	77	122	82	103	94	26.5	77	73	205	110	150	24	85	197	70	65	6.7	1000		42
48×5.0	95	156	100	117	105	36	87	73	230	130	160	27	100	222	95	75	11.6	2000		48

Maximum permissible weight (t)

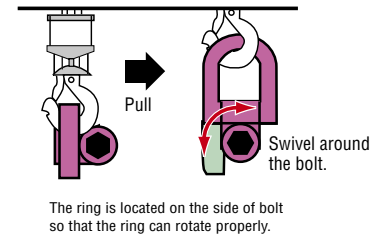
Hoisting method	No. of rings	Hoisting angle	RDLG M									
			8	10	12	16	20	24	30	36	42	48
	1	0	0.3	0.6	1	1.5	2.5	4	5	7	10	20
	2	0	0.6	1.2	2	3	5	8	10	14	20	40
	1	90	0.3	0.6	1	1.5	2.5	4	5	7	10	20
	2	90	0.6	1.2	2	3	5	8	10	14	20	40
	2	0 to 45	0.4	0.8	1.4	2.1	3.5	5.6	7	9.8	14	28
		45 to 60	0.3	0.6	1	1.5	2.5	4	5	7	10	20
	2	Asymmetrical	0.3	0.6	1	1.5	2.5	4	5	7	10	20
	3 OR 4	0 to 45	0.6	1.3	2.1	3.1	5.2	8.4	10.5	14.7	21	42
		45 to 60	0.4	0.9	1.5	2.2	3.7	6	7.5	10.4	15	30
	3 OR 4	Asymmetrical	0.3	0.6	1	1.5	2.5	4	5	7	10	20
Tightening torque			30	60	100	150	250	400	500	700	1000	2000

Feature

All-directions eyebolts to flexibly enable load bearing from any direction

The ring turns in 180° and swivels in all direction.
The ring is shifted to the side of the bolt, which enables safe operation even in horizontal load.
Tough design assures high safety.
Two movable joints enable loading in all direction.

- Seamless rings provide toughness
- 360° Swiveling in the direction of load
- All the products have passed the magnetism test
- Conforms to the Machinery Directive 2006/42/EG
- Can be loaded in all directions and is safety factor 4
- Recommended installation surface is SS400 or higher



About pink coating

The surface is coated with the eye catching fluorescent pink powder coating.
The color changes when the surrounding temperature is between 225°C and 380°C so that strength deterioration can be visually identified.



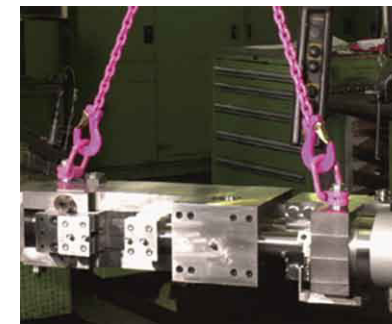
* This product cannot be used in the temperature over 380°C.

Notes

- Make sure that edges of the hoisted objects do not come in contact with the load ring while the ring is rotating flexibly.
- Firmly attach to the surface.
- For reverse rotation, bearing equipped products are recommended such as Vario Ring or Power Point Star.

Mounting the rings on the objects to be hoisted

- Single usage: Mount the rings on the center of the object to be hoisted.
- Double usage: Mount the rings on or equidistant from the center of the object to be hoisted.
- Triple or quadruple usage: Mounts the rings symmetrically and, if possible, on the same surface.



Order

Catalog No.
RDLG24

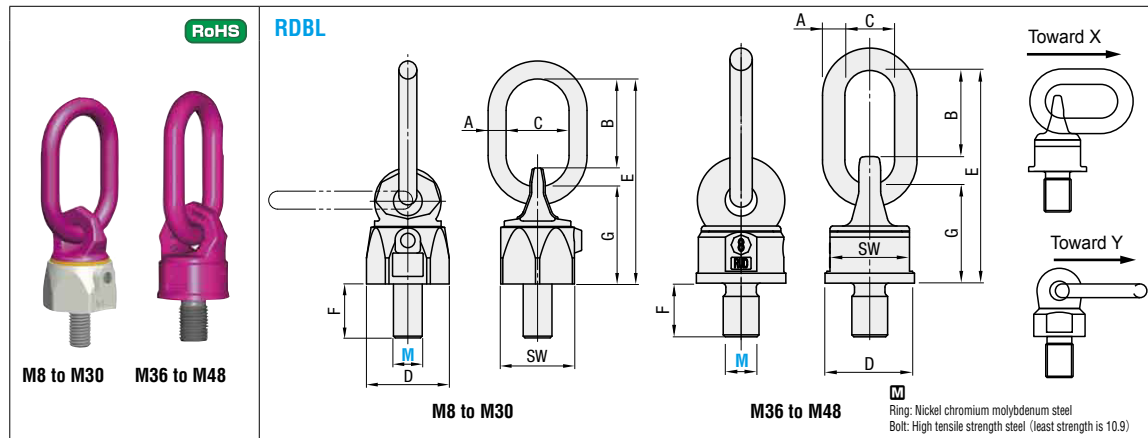


Days to Ship

Quotation



VARIO RINGS



M×P	A	B	C	D	E	F	G	SW (spanner size)	Self weight (kg)	Tightening torque (Nm)	Catalog No.	
											Type	M
8×1.25	8	31	29	30	76	13	36	28	0.25	10	RDBL	8
10×1.5	8	31	29	36	78	17	38	30	0.3	10		10
12×1.75	10	49	36	42	107	21	47	36	0.5	10		12
16×2.0	13	46	38	48	114	25	56	41	0.6	30		16
20×2.5	13	54	35	64	137	33	67	55	1.1	70		20
24×3.0	18	66	40	81	173	40	88	70	2.7	150		24
30×3.5	22	90	50	99	221	50	106	85	5.5	225		30
36×4.0	22	86	50	90	208	54	94	80	4.6	410		36
42×4.5	26	111	65	98	234	63	95	85	6.1	550		42
48×5.0	26	111	65	98	234	68	95	85	6.3	550		48

Maximum permissible weight (t) * The numbers in parentheses (...) indicate the measurements for Y direction.

Hoisting method	No. of hoistings	Hoisting angle	RDBL									
			M									
			8	10	12	16	20	24	30	36	42	48
	1	0	0.6	0.9	1.2	2.6	4	7	10	15	17	18
	2	0	1.2	1.8	2.4	5.2	8	14	20	30	34	36
	1	90	0.3 (0.4)	0.45 (0.6)	0.6 (0.7)	1.3 (1.5)	2 (2.5)	3.5 (4)	5 (6)	8 (10)	12 (13)	13 (16)
	2	90	0.6 (0.8)	0.9 (1.2)	1.2 (1.5)	2.6 (3)	4 (5)	7 (8)	10 (12)	16 (20)	24 (26)	26 (32)
	2	0 to 45	0.4	0.6	0.8	1.8	2.8	4.9	7	11.2 (14)	16.8 (18.2)	18.2 (22.4)
		45 to 60	0.3	0.4	0.6	1.3	2	3.5	5	8 (10)	12 (13)	13 (16)
	2	Asymmetrical	0.3	0.4	0.6	1.3	2	3.5	5	8 (10)	12 (13)	13 (16)
	3 OR 4	0 to 45	0.6	0.9	1.2	2.7	4.2	7.3	10.5	16.8 (21)	25.2 (27.3)	27.3 (33.6)
		45 to 60	0.4	0.6	0.9	1.9	3	5.2	7.5	12 (15)	18 (19.5)	19.5 (24)
	3 OR 4	Asymmetrical	0.3	0.4	0.6	1.3	2	3.5	5	8 (10)	12 (13)	13 (16)
Tightening torque			10	10	10	30	70	150	225	410	550	550

Feature

On mounting the bearing, reverse rotation becomes safer and more effective.

Vario Rings make reverse rotation safer and more effective with the help of mounted bearing. You can hoist a load in any way such as one point, four point, and hanging in horizontal way. The rings are perfectly safe and effective for lifting loads and reverse rotation as they can be turned even when they bear a load.

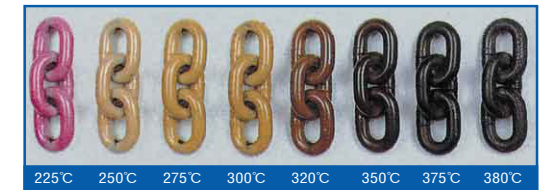
- Can be loaded in all directions and is safety factor 4.
- The ball bearing in the rings enable smooth rotation even when the rings bear a load
- After the bolt is fixed, the ring rotate in the direction of the load
- All the products have passed a magnetism test
- Conforms to the Machinery Directive 2006 / 42 / EG
- Recommended installation surface is SS400 or higher
- Single ball bearing
- Surface plated and coated with pink powder

About pink coating

The surface is coated with the eye catching fluorescent pink powder coating.

The color changes when the surrounding temperature is between 225°C and 380°C so that strength deterioration can be visually identified.

* This product cannot be used in the temperature over 380°C.



Notes

- RDBL is designed to be able to rotate while bearing load; however, is not suitable for long-term rotations.
- Firmly attach to the surface.

Mounting the rings on the objects to be hoisted

- Single usage: Mount the rings on the center of the object to be hoisted.
- Double usage: Mount the rings on or equidistant from the center of the object to be hoisted.
- Triple or quadruple usage: Mounts the rings symmetrically and, if possible, on the same surface.



Order

Catalog No.
RDBL8



Days to Ship

Quotation

COMPONENTS FOR LIFTING AND DIE STORING

DIE FIXING PLATES / HOLDING PIPES FOR TRANSPORT

DIE STORAGE BUSHINGS

Die fixing plates RoHS

DKP

DKPL (Single oblong hole type)

SS400

Catalog No.	5mm increments		Base unit price
Type	L	F	1 ~ 9 pieces
DKP	200	95 ~ 150	
	250	145 ~ 200	Quotation
	300	195 ~ 250	

Catalog No.	5mm increments		Base unit price
Type	L	F	1 ~ 9 pieces
DKPL (Single oblong hole type)	200	120 ~ 150	
	250	170 ~ 200	
	300	220 ~ 250	Quotation
	350	270 ~ 300	
	400	320 ~ 350	

Order Catalog No. — F
 DKP 200 — F95
 DKPL 250 — F180

Days to Ship Quotation

Price Quotation

Holding pipes for transport RoHS

**DYPA
DYPB
DYPC**

This product was discontinued in 2017.

Catalog No. : DYPA DYPB DYPC

SGP

D	t	Catalog No.		Base unit price
		Type	L	
139.8	4.5	DYPA	100	
			150	
			200	
165.2	5	DYPB	100	
			150	Quotation
			200	
190.7	5.3	DYPC	100	
			150	
			200	

Order Catalog No.
DYPA 150

Days to Ship Quotation

Price Quotation

ex Example

DKP • DKPL

RoHS **KPB**

For checking seating of bushing

Urethane sheet Shore A90

SS400
S Coating (yellow)
Coated area: Outer circumference of ℓ

Post dia. Bushing inner dia.	D	D ₁	P	L	ℓ	T	E	d	R	Catalog No.		Base unit price
										Type	No.	
38	40	56	37	88	50	12	25.5	15	1.5	KPB	38	
50	52	70	49	115	65	15	37.5	15	1.5		50	Quotation
60	62	82	59	138	78	18	47.5	15	1.5		60	

- Notes for use**
- Use these bushings when temporarily storing a die after the guide posts and guide bushings have been mounted.
 - A urethane sheet is applied to serve as a cushion material.
 - 4 holes (φ d) are created around the bushing for checking the seating.

- Precautions for use**
- Do not use these bushings when transporting or shipping the die.
 - When KPB is used, avoid stacking dies on top of each other.

Order Catalog No.
KPB 50

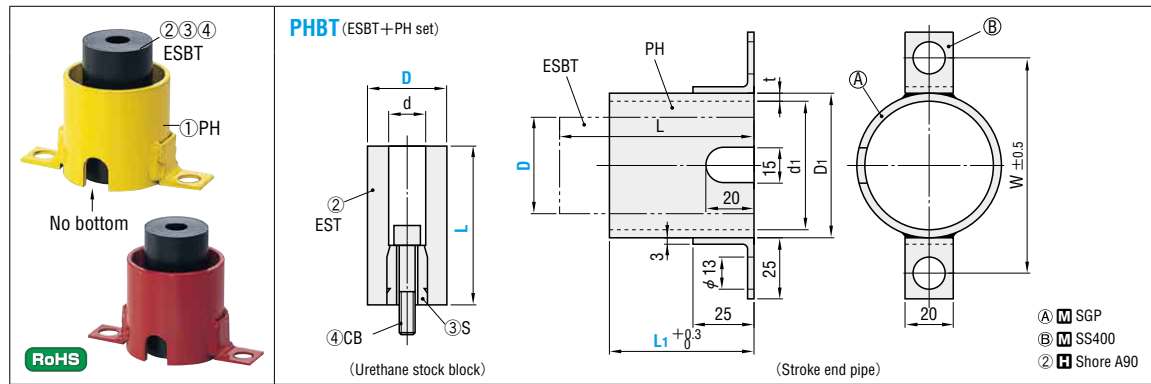
Days to Ship Quotation

Price Quotation

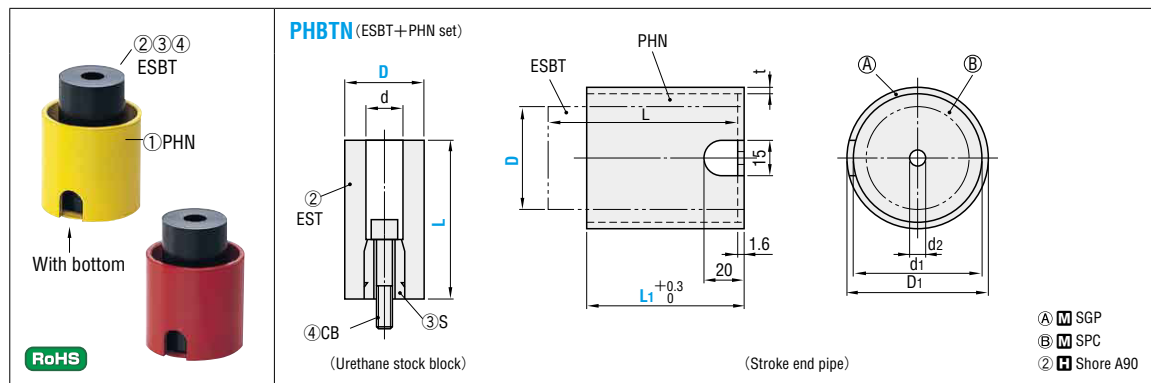
ex Example

KPB

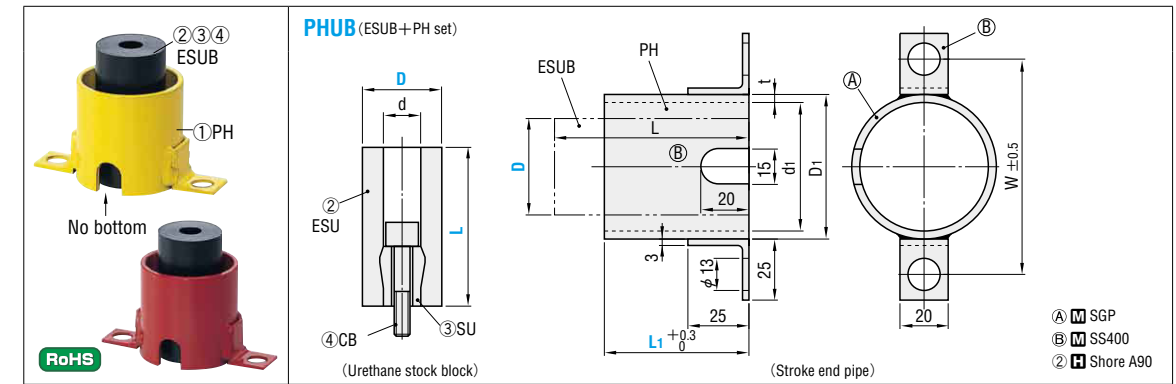
URETHANE STOCK BLOCK SETS



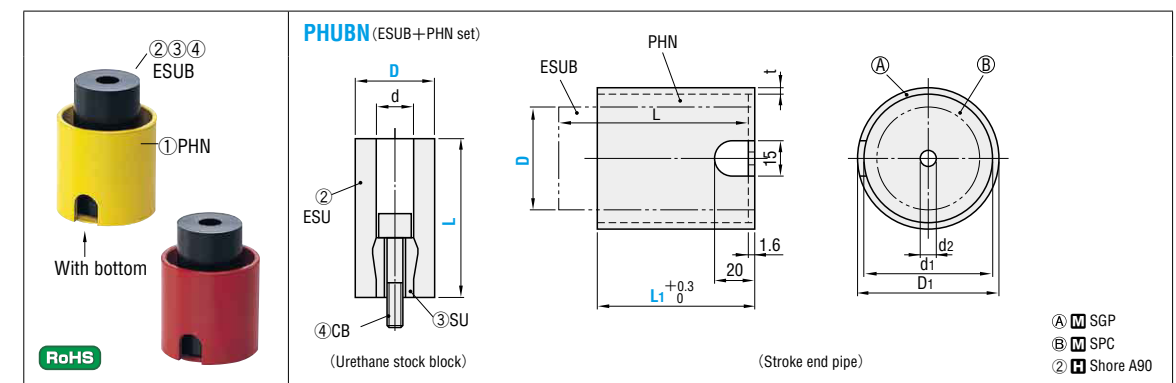
Urethane stock blocks ②③④ESBT			Stroke end pipes ①PH					Sleeve ③S	Bolt ④	Catalog No.		L	L ₁	Color	Base unit price
D	L	d	D ₁	L ₁	d ₁	t	W		Type	D					1 ~ 9 sets
40	80		60.5	60	52.9	3.8	91	S14	PHBT	40	80	60	R (Red)	Quotation	
50	110		89.1	85	80.7		119			50	110	85			
70		14		90	93.2	4.2	132	S22	PHBT	70	140	100	Y (Yellow)	Quotation	
				110						90					
90	140		139.8	100	130.8	4.5	170	S22	PHBT	90	140	100	Y (Yellow)	Quotation	
100		22		110	155.2	5.0	195			100	140	100			
				110				110							



Urethane stock block ②③④ESBT			Stroke end pipe ①PHN					Sleeve ③S	Bolt ④	Catalog No.		L	L ₁	Color	Base unit price
D	L	d	D ₁	L ₁	d ₁	d ₂	t		Type	D					1 ~ 9 sets
40	80		60.5	60	52.9		3.8	S14	PHBTN	40	80	60	R (Red)	Quotation	
50	110	14	89.1	85	80.7	9	4.2			50	110	85			
70			101.6		93.2		4.2	S22	PHBTN	70	140	110	Y (Yellow)	Quotation	
90	140	22	139.8	110	130.8	13	4.5			90	140	110			
100			152.5		142.5		5.0			100	140	110			



Urethane stock block ②③④ESUB			Stroke end pipe ①PH					Sleeve ③SU	Bolt ④	Catalog No.		L	L ₁	Color	Base unit price
D	L	d	D ₁	L ₁	d ₁	t	W		Type	D					1 ~ 9 sets
40	80	14	60.5	60	52.9	3.8	91	SU14	PHUB	40	80	60	R (Red)	Quotation	
90	140	22	139.8	90	130.8	4.5	170	SU22		90	140	90	Y (Yellow)		



Urethane stock block ②③④ESUB			Stroke end pipe ①PHN					Sleeve ③SU	Bolt ④	Catalog No.		L	L ₁	Color	Base unit price
D	L	d	D ₁	L ₁	d ₁	d ₂	t		Type	D					1 ~ 9 sets
40	80	14	60.5	60	52.9	9	3.8	SU14	PHUBN	40	80	60	R (Red)	Quotation	
70	110	22	101.6	85	93.2	13	4.2	SU22		70	110	85			
90	140	22	139.8	110	130.8	13	4.5	SU22	PHUBN	90	140	110	Y (Yellow)	Quotation	

List of stroke end pipe and urethane stock block combinations

Set name	Stroke end pipe	Urethane stock block		
		②Urethane	③Sleeve	④Bolt
PHBT	PH (P.1543)	ESBT (P.1544)	EST (P.1544)	S (P.1544)
PHBTN	PHN (P.1543)	ESBT (P.1544)	EST (P.1544)	S (P.1544)
PHUB	PH (P.1543)	ESUB (P.1544)	ESU (P.1544)	CB (P.809)
PHUBN	PHN (P.1543)	ESUB (P.1544)	ESU (P.1544)	

Order	Catalog No.	L	L ₁	Color
	PHBT 50	110	85	R
	PHBTN 70	140	110	Y
	PHUB 40	80	60	R
	PHUBN 90	140	110	Y

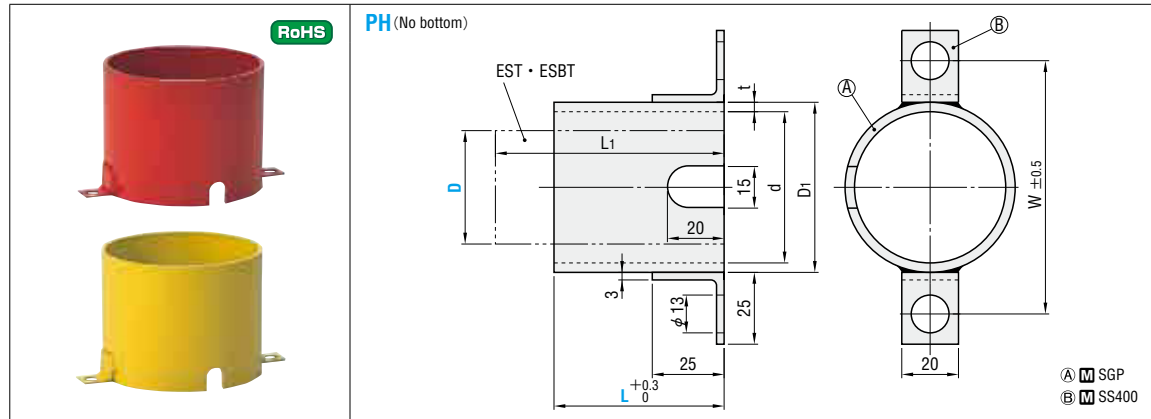
Days to Ship **Quotation**

Price **Quotation**

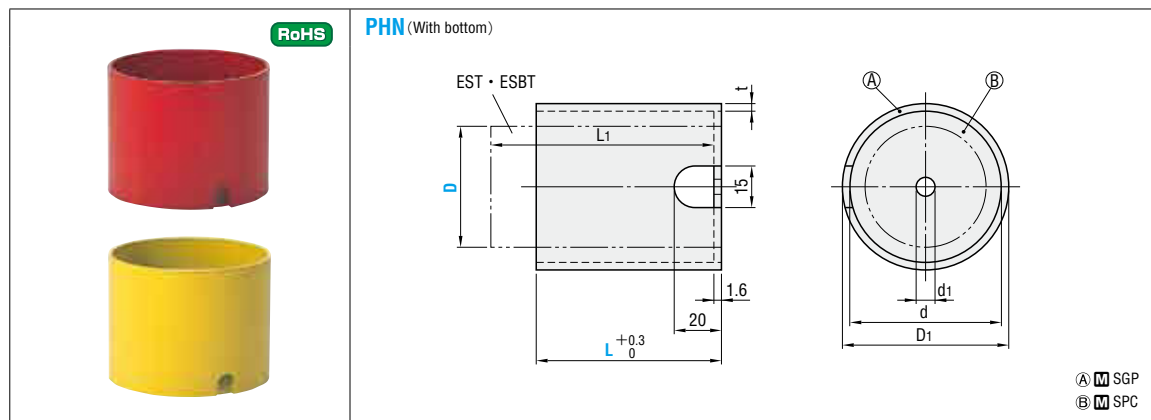
STROKE END PIPES

URETHANE STOCK BLOCKS / URETHANE ABSORBERS / URETHANE PADS

EST and ESU were discontinued in 2017.



EST-ESBT		D ₁	d	t	W	Catalog No. Type	D	L	Color	Base unit price 1 ~ 9 pieces
D	L ₁									
40	80	60.5	52.9	3.8	91	PH	40	60	R (Red) Y (Yellow)	Quotation
50	110	89.1	80.7	4.2	119		50	85		
70	140	101.6	93.2	4.2	132		70	90-100 110		
90	140	139.8	130.8	4.5	170		90	90-100 110		
100	140	165.2	155.2	5	195		100	90-100 110		
110	140	190.7	180.1	5.3	220	110	90-100 110			

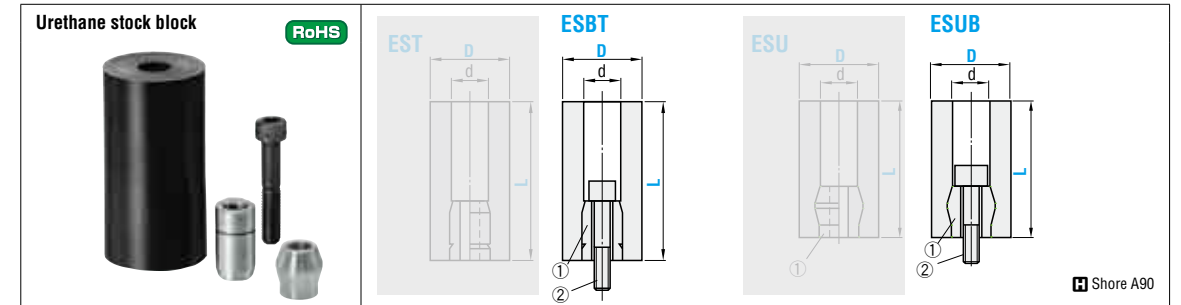


EST-ESBT		D ₁	d	d ₁	t	Catalog No. Type	No.	L	Color	Base unit price 1 ~ 9 pieces
D	L ₁									
40	80	60.5	52.9	9	3.8	PHN	40	60	R (Red) Y (Yellow)	Quotation
50	110	89.1	80.7		4.2		50	85		
70	110	101.6	93.2	13	4.2		70	85		
70	140	101.6	93.2	9	4.2		70	110		
70	140	101.6	93.2		4.2		7022	110		
90	140	139.8	130.8	13	4.5	90	110			
100	140	152.5	142.5		5	100	110			
110	140	190.7	180.1		5.3	110	110			

Order **Catalog No.** - **L** - **Color**
PH 70 - 110 - R

Price **Quotation**

Days to Ship **Quotation**



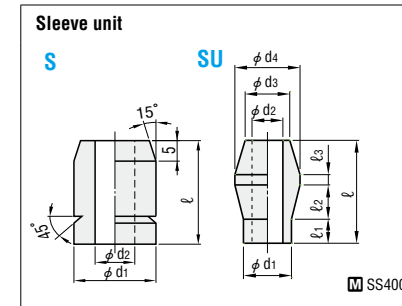
d	Urethane	①		②	Catalog No.		Base unit price 1 ~ 9 pieces
		ESBT	ESUB		Type	D-L	
14	E40-80	S14	SU14	CB8-45 (1 bolt)	EST ESBT *ESU *ESUB	*40-80	Quotation
	*50-110						
	*70-140						
22	E7022110	S22	SU22	CB12-55 (1 bolt)	*ESU *ESUB	*7022110	Quotation
	E7022140					*7022140	
	E90-120					*90-120	
	E90-140					*90-140	
	E100-140					100-140	

For ESUB, only the sizes marked with * are available. Applicable urethanes P.1506

Order **Catalog No.**
ESBT 40-80

Days to Ship **Quotation**

Price **Quotation**

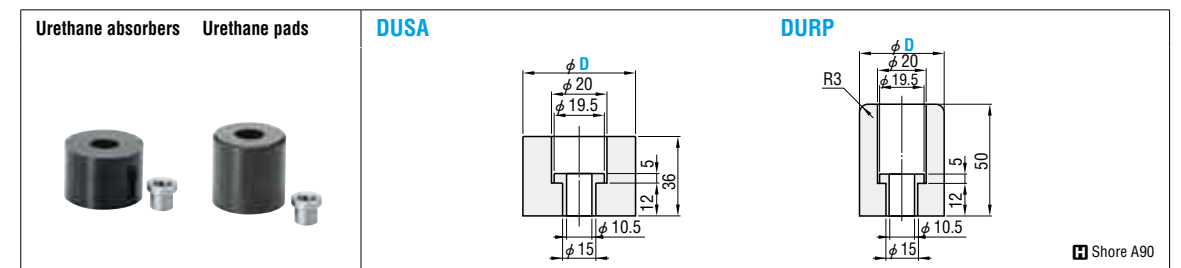


d ₁	d ₂	d ₃	d ₄	ℓ	ℓ ₁	ℓ ₂	ℓ ₃	Urethane d	Catalog No.	Base unit price 1 ~ 19 pieces
16	9	-	-	30	-	-	-	14	S14	Quotation
24	13	-	-	35	-	-	-	22	S22	
24	13	-	-	100	-	-	-	(L170 or more)	S22-100	Quotation
14	9	13	19	30	7	10	3	14	SU14	
22	13	20	27					22	SU22	

Order **Catalog No.**
S 14

Price **Quotation**

Days to Ship **Quotation**

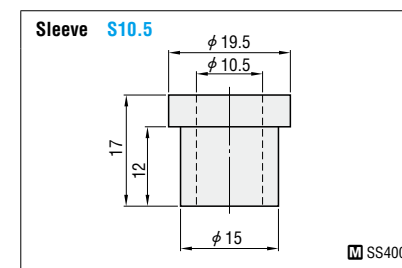


Catalog No. Type	Base unit price 1 ~ 9 pieces	
	D	
DUSA	50	Quotation
	70	
DURP	40	Quotation
	50	

Order **Catalog No.**
DUSA 50

Price **Quotation**

Days to Ship **Quotation**



Catalog No. **S10.5** Base unit price 1 ~ 19 pieces **Quotation**

Days to Ship **Quotation**

Price **Quotation**

COMPONENTS FOR LIFTING AND DIE STORING