

KCSC series



Features

- KCC has 3 kinds of KCSC models which control the speed of both, light and heavy loads with smooth and consistent capacities. They are available in stroke lengths of 15mm, 30mm and 50mm with capacities from 2.5Kg to 255Kg force. KCC KCSC models are hermetically sealed and can be operated in any position for a long time operation without any leakage and can control the moving devices with easy and diverse by using adjustable dial.

How to Order

KCSC 15

① Series

KCSC	Constant speed controller
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② Stroke

15	15mm
30	30mm
50	50mm

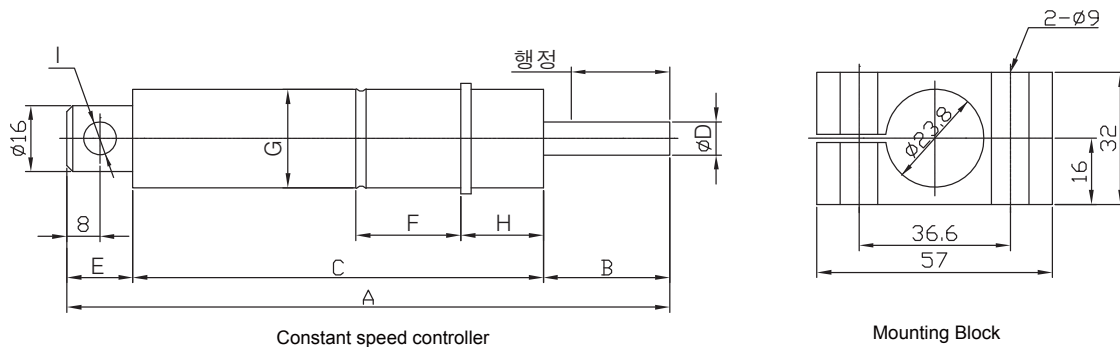
Specifications

Model	KCSC15	KCSC30	KCSC50	
Stroke	15	30	50	
Propelling force (N)	Min.	30	30	35
	Max.	3,500	3,500	3,500
Return force (N)	Min.	20	20	20
	Max.	30	30	35
Return force (Sec)	0.8	1.2	1.8	
Max. acceptance angle (°)	1.5	1.5	1.0	
Material	Body	Steel(Nickel plating)		
	Piston rod	Special steel(Chromium plating)		
Range of Impact Velocity	0.01m/s~0.65m/s			
Ambient Temperature	-10~60℃			
Adjustment	Adjustment knob located at rear."0" is soft and "30" is hard.			

⚠ Precautions

1. Don't turn piston rod. The seal will be damaged if turned.
2. Piston rod and colliding object must be perpendicular

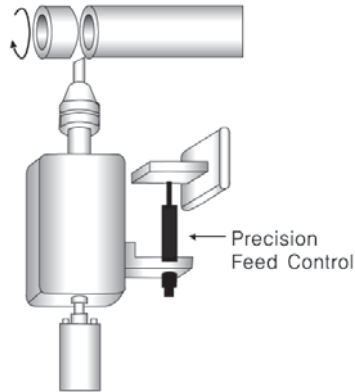
Dimensions



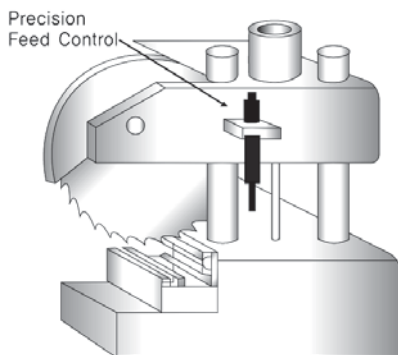
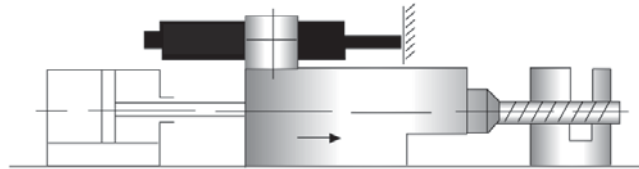
Unit:mm

Model	Stroke	A	B	C	øD	E	F	øG	H	øI	øJ	Weight
KCSC15	15	166.5	20	130.5	8	16	25.4	23.8	20	8	16	340
KCSC30	30	209	35	158								350
KCSC50	50	276	55	205								460

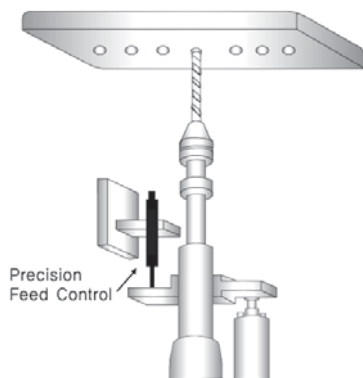
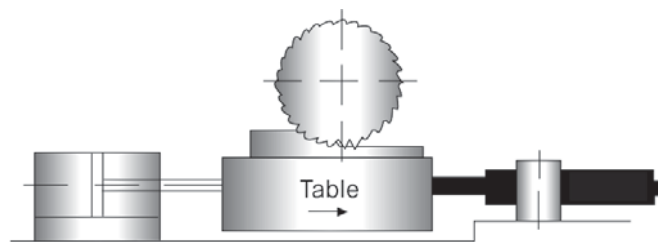
Applications



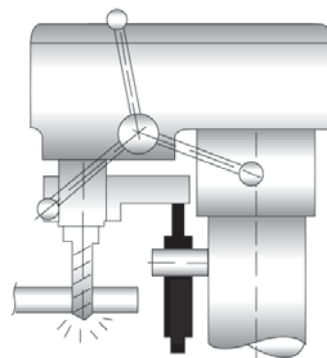
KCSC as drilling and cutting fixture
Prevent damage when the drill pierce with exact adjustment of feed rate of drilling machine.



KCSC as sawing and milling fixture
Adjust feed rate of milling machine exactly when doing milling, honing and polishing work with fixture



KCSC as drilling press and lathe work
Adjust feed rate exactly while doing drilling, pressing and piercing work.



- Shock Absorber & Gas Spring
- Shock Absorber Reference data
- KPA KUPA
- KSCA
- KCSC**
- Gas Spring Reference data
- KBG-W
- KBG-B

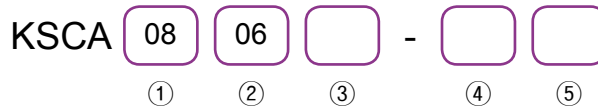
KSCA series



Features

- Shock absorber made to stop smooth and quiet using a unique design for multiple orifice structure. When injection mold inject as well as collide against robot with high speed.
- Non-adjustable shock absorber makes impact energy exhale to heat energy in a short time.
- Shock Absorber allows higher productivity by increasing accelerated velocity.
- Saves production costs by extending the equipment life.
- Improves working efficiency by decreasing noise in factory.
- Maintains better quality to prevent damage of goods.

How to Order



① Outer diameter

08	M8XP1.0	06	06 mm
10	M10XP1.0	06	06 mm
12	M12XP1.0	10	10 mm
14	M14XP1.0 (M14XP1.5*)	15	15 mm
		20	20 mm
20	M20XP1.5	20	20 mm
		30	30 mm
		50	50 mm
25	M25XP2.0	25	25 mm
		30	30 mm
		50	50 mm
		80	80 mm
36	M36XP1.5	80	80 mm

② Stroke

③ Cap

Nil	With out cap (Only M08, M10, M12, M14, M20)
B	With cap (KSCA2030~KSCA3680 : Standard have urethane cap basically)

④ Damping constant

1	Soft
2	Standard
3	Hard

⑤ Finishing

Nil	Black oxide coating
N	Nickel plating

* Order made : outer diameter M14XP1.5

* M08~M12 : Basic nickel plating

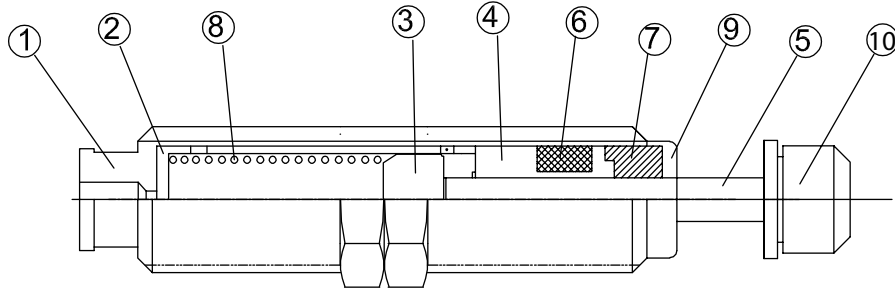
Specifications

Model	Total energy [Max] (Nm)	Total energy per hour [Max] (Nm/h)	Effective weight [Max~Min] (kg)	Shock force [Max] (N)	Return force [Min~Max] (N)	Weight (g)	Model	Total energy [Max] (Nm)	Total energy per hour [Max] (Nm/h)	Effective weight [Max~Min] (kg)	Shock force [Max] (N)	Return force [Min~Max] (N)	Weight (g)
KSCA0806-1	2.8	6,000	≤8	250	1~4	15	KSCA2050B-1	75	40,000	≤10	1,900	10~30	300
KSCA0806-2			≤10				KSCA2050B-2			≤16			
KSCA1006-1	4	10,000	≤5	630	4~6	25	KSCA2050B-3	80	72,000	≤32	4,000	20~40	270
KSCA1006-2			≤8				KSCA2525B-1			≤20			
KSCA1006-3			≤13				KSCA2525B-2			≤30			
KSCA1210-1	8	14,000	≤8	1,050	5~10	40	KSCA2525B-3	100	75,000	≤110	4,000	10~35	300
KSCA1210-2			≤16				KSCA2530B-1			≤30			
KSCA1415-1	15	27,000	≤7	1,300	7~11	65	KSCA2530B-2	130	76,000	≤50	4,000	20~50	410
KSCA1415-2			≤17				KSCA2530B-3			≤110			
KSCA1415-3			≤32				KSCA2550B-1			≤30			
KSCA1420-1	19	29,000	≤7	1,300	7~12	80	KSCA2550B-2	210	86,500	≤50	4,000	20~45	530
KSCA1420-2			≤17				KSCA2580B-1			≤30			
KSCA1420-3			≤32				KSCA2580B-2			≤50			
KSCA2020-1	30	35,000	≤10	1,900	10~30	130	KSCA2580B-3	320	128,000	≤110	5,000	25~50	800
KSCA2020-2			≤16				KSCA3680B-1			≤1,000			
KSCA2020-3			≤32				KSCA3680B-2			≤1,000			
KSCA2030B-1	45	37,000	≤10	1,900	10~30	230	KSCA3680B-3	320	128,000	≤1,000	5,000	25~50	800
KSCA2030B-2			≤16										
KSCA2030B-3			≤32										

Max. impact velocity ≤ 4 m/sec
Ambient temperature -10~60 °C

* Includes lock nut(2pcs).

Structure

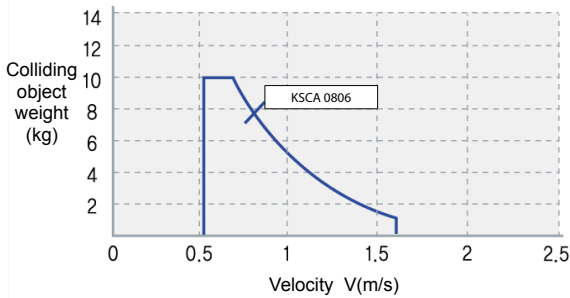


Part no.	Parts	Material	Part no.	Parts	Material
1	Outer tube	Free-cutting steel, SHN24L	6	Accumulator	ECO
2	Inner tube	Brass extruding tube, C2700BE	7	U-packing	Nitrile rubber, NBR
3	Piston	Brass extruding tube, C2700BE	8	Spring	HSWR72A
4	Head	Brass extruding tube, C2700BE	9	Dust cap	AL2104
5	Piston rod	Carbon steel tube, SM54C	10	Urethane cap	Urethane, TPU

Shock Absorber & Gas Spring Shock Absorber Reference data
KPA KUPA
KSCA
KCSC
Gas Spring Reference data
KBG-W
KBG-B

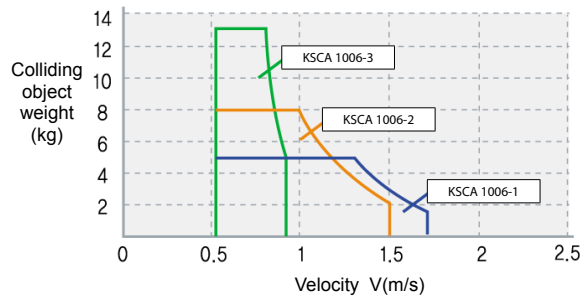
Impact Velocity

KSCA 0806



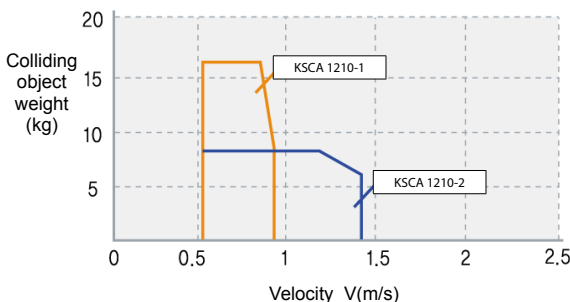
※ Impact velocity range: ≤1.6m/sec

KSCA 1006-1, 1006-2, 1006-3



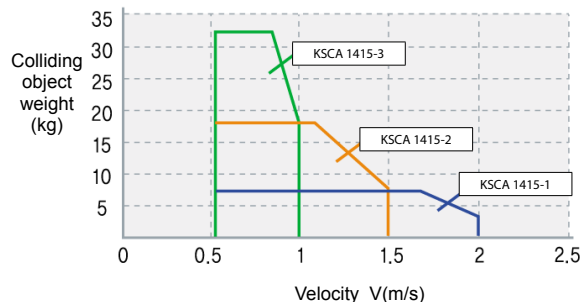
※ Impact velocity range: ≤1.7m/sec

KSCA 1210-1, 1210-2



※ Impact velocity range: ≤1.4m/sec

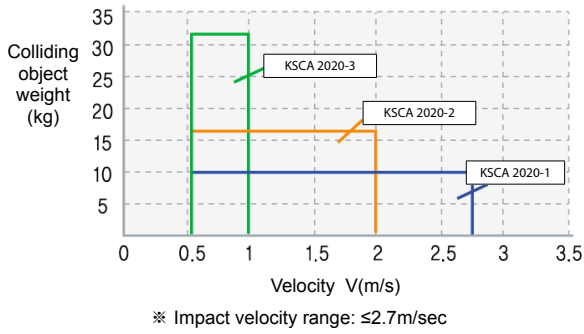
KSCA 1415-1, 1415-2, 1415-3



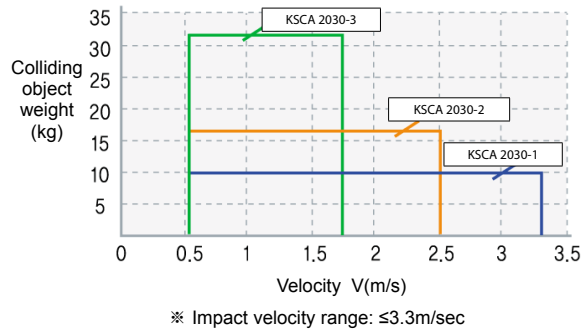
※ Impact velocity range: ≤2m/sec

Impact Velocity

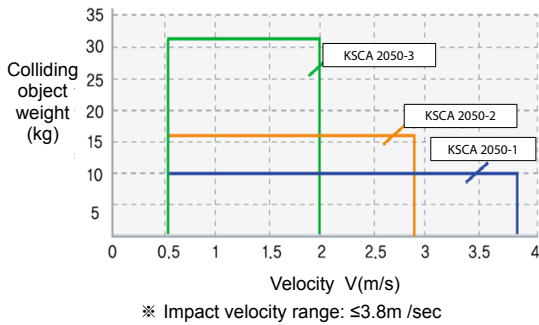
KSCA 2020-1, 2020-2, 2020-3



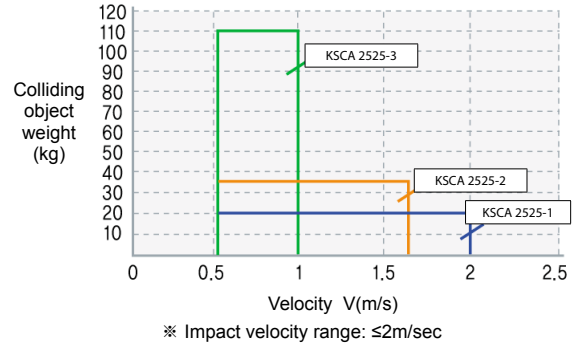
KSCA 2030-1, 2030-2, 2030-3



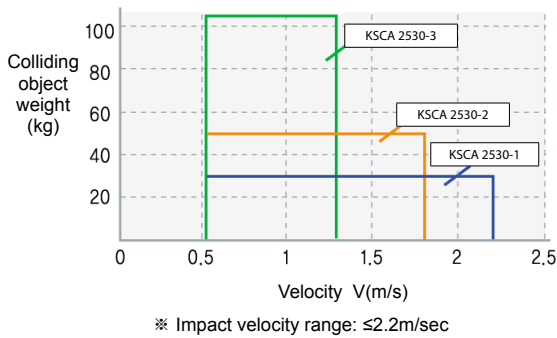
KSCA 2050-1, 2050-2, 2050-3



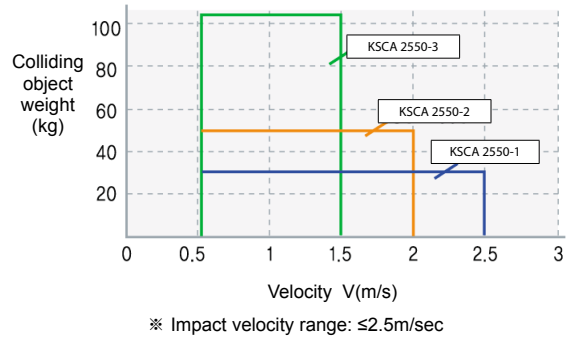
KSCA 2525-1, 2525-2, 2525-3



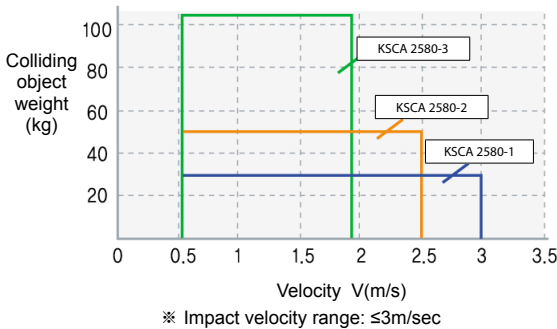
KSCA 2530-1, 2530-2, 2530-3



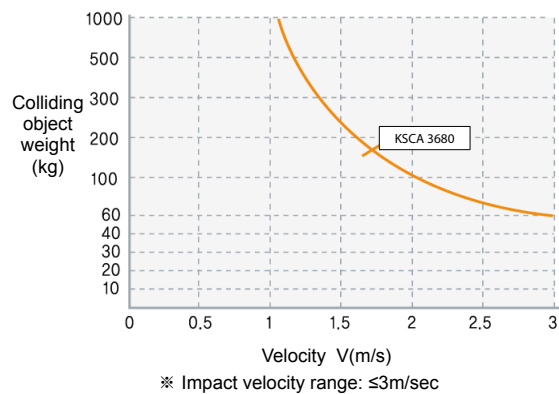
KSCA 2550-1, 2550-2, 2550-3



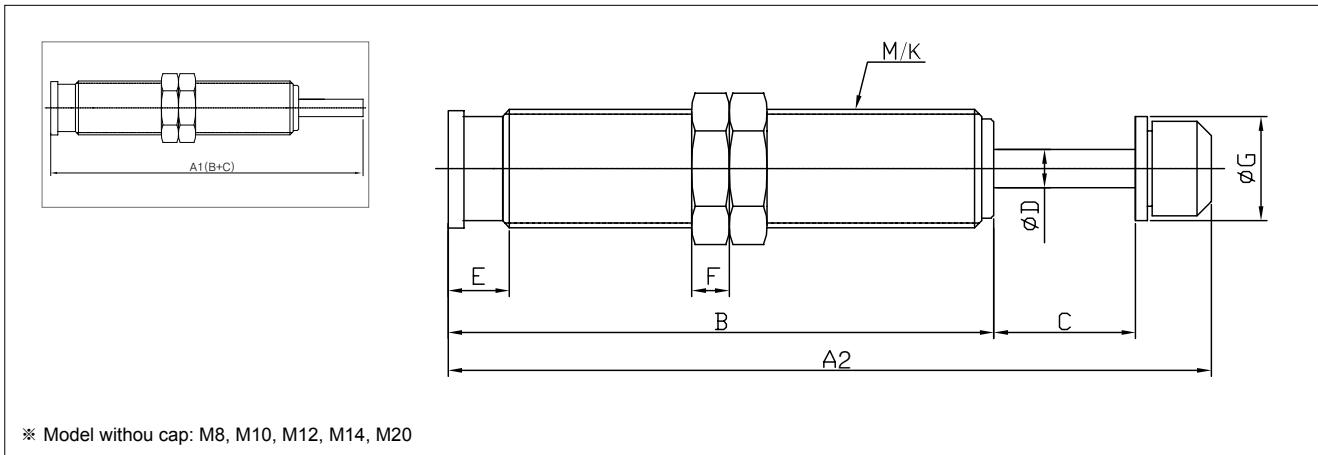
KSCA 2580-1, 2580-2, 2580-3



KSCA 3680

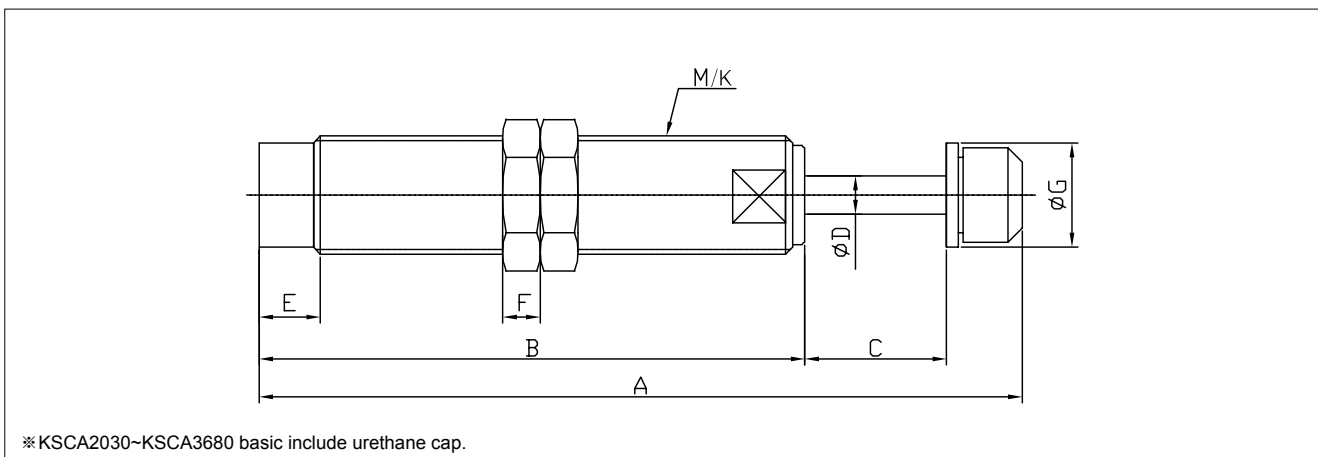


Dimensions-Non-adjustable (Small)



Unit:mm											Unit:mm										
Model	Stroke	A1	A2	B	C	øD	E	F	øG	M/K	Model	Stroke	A1	A2	B	C	øD	E	F	øG	M/K
KSCA0806	6	47	-	41	6	3	5	3	-	M8XP1.0	KSCA1415	15	88.5	-	73.5	15	4	11	4	-	M14XP1.0 M14XP1.5
KSCA0806-B	6	-	55	41	6	3	5	3	7	M8XP1.0	KSCA1415-B	15	-	101.5	73.5	15	4	11	4	11	M14XP1.0 M14XP1.5
KSCA1006	6	47	-	41	6	3	5	3	-	M10XP1.0	KSCA1420	20	93.5	-	73.5	20	4	11	4	-	M14XP1.0
KSCA1006-B	6	-	57	41	6	3	5	3	9	M10XP1.0	KSCA1420-B	20	-	106.5	73.5	20	4	11	4	11	M14XP1.0
KSCA1210	10	63	-	53	10	4	5	3	-	M12XP1.0	KSCA2020	20	108.5	-	88.5	20	6	13	6	-	M20XP1.5
KSCA1210-B	10	-	73	53	10	4	5	3	9	M12XP1.0	KSCA2020-B	20	-	124	88.5	20	6	13	6	18	M20XP1.5

Dimensions-Non-adjustable (Medium, Long Stroke)



Unit:mm									
Model	Stroke	A	B	C	øD	E	F	øG	M/K
KSCA2030B	30	149	103.5	30	6	13	6	18	M20XP1.5
KSCA2525B	25	132.5	91.5	25	8	13	8	22	M25XP2.0
KSCA2530B	30	161.5	115.5	30	8	13	8	22	M25XP2.0
KSCA2550B	50	236.5	170.5	50	8	61	8	22	M25XP2.0
KSCA2580B	80	331.5	235.5	80	8	126	8	22	M25XP2.0
KSCA3680B	80	343	241	80	10	131	10	34	M36XP1.5

KPA/KUPA series



Adjustable (Standard)

Adjustable (Medium)

Adjustable (Large)

Features

- User can adjust impact absorbed range with dampening adjustable dial(360°) according to impact velocity.
- Rapid returning piston rod by specially designed spring for next cycle.
- Surface of outer tube and piston rod plate with chrome that prohibits corrosion and scratches for a longer life.
- Available attachment to any position.
- Shock Absorber allows higher productivity by increasing accelerated velocity.
- Saves production costs by extending the equipment life.
- Improves working efficiency by decreasing noise in factory.
- Maintains better quality to prevent damage of goods.

How to Order

KUPA 1210 -

① ② ③ ④

① Cap

KPA	Without cap (Only M12, M14, M16, M20, M25, M27)
KUPA	With cap (M12, M14, M16, M20, M25, M27 Standard have urethane cap.) (M36, M42, M64, M85 Standard have a steel cap. Urethane cap is option part.)

③ Finishing

Nil	Black oxide coating
N	Nickel plating

④ Option

Nil	Lock nut M08~M36 (Basic : include 2ea) Lock nut M42~M85 (Basic : include 1ea)
S	Stop collar (Only M14~M85)
F	Square flange (Only M36,M42,M64,M85)
R	Rectangular flange (Only M36, M42, M64)
U	Urethane cap (Only M36,M42,M64,M85)

② Outer diameter & Stroke

1210	M12XP1.0	10mm	4225	M42XP1.5	25mm
1410	M14XP1.5	10mm	4250		50mm
1612	M16XP1.5	12mm	4275		75mm
2015	M20XP1.5	15mm	64050	M64XP2.0	50mm
2525	M25XP1.5	25mm	64100		100mm
2725	M27XP3.0	25mm	64150	M85XP2.0	150mm
3035	M30XP1.5	35mm	85050		50mm
3625	M36XP1.5	25mm	85090		90mm
3650		50mm	85125		125mm
			85165	165mm	

Specifications

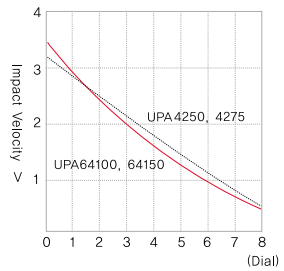
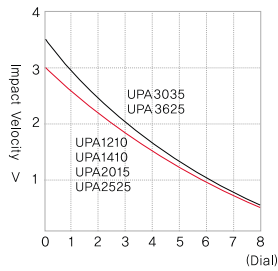
Model	Total energy [Max] (Nm)	Total energy per hour [Max] (Nm/h)	Effective weight [Max~Min] (kg)	Shock force [Max] (N)	Return force [Min~Max] (N)	Weight (g)	Model	Total energy [Max] (Nm)	Total energy per hour [Max] (Nm/h)	Effective weight [Max~Min] (kg)	Shock force [Max] (N)	Return force [Min~Max] (N)	Weight (g)
KPA1210	13	19,000	0.3~70	600	4~10	45	KUPA3650	350	110,000	34~4,900	6,000	25~60	780
KUPA1210	13	19,000	0.3~70	600	4~10	50	KUPA4225	250	130,000	25~7,000	2,400	50~85	1,000
KPA1410	15	24,500	0.3~90	680	5~11	55	KUPA4250	500	157,500	45~10,000	2,400	35~75	1,300
KUPA1410	15	24,500	0.3~90	680	5~11	65	KUPA4275	750	195,000	55~10,500	2,400	35~100	1,600
KPA1612	20	30,000	1.3~200	1,000	7~14	110	KUPA64050	1,250	245,000	70~16,000	3,300	80~165	3,500
KUPA1612	20	30,000	1.3~200	1,000	7~14	125	KUPA64100	2,550	335,000	115~19,000	3,300	75~210	4,700
KPA2015	25	35,000	1.3~220	1,160	8~15	135	KUPA64150	3,750	370,000	130~26,500	3,300	95~360	6,100
KUPA2015	25	35,000	1.3~220	1,160	8~15	150	KUPA85050	2,400	384,000	180~34,000	66,000	140~200	6,300
KPA2525	70	70,000	9.8~1,300	3,800	15~45	340	KUPA85090	4,100	656,000	210~40,000	66,000	100~210	7,300
KUPA2525	70	70,000	9.8~1,300	3,800	15~45	390	KUPA85125	5,800	945,000	220~45,000	66,000	90~210	8,900
KPA2725	70	70,000	9.8~1,300	3,800	15~45	340	KUPA85165	7,100	1,150,000	290~50,000	66,000	90~400	10,900
KUPA2725	70	70,000	9.8~1,300	3,800	15~45	390							
KUPA3035	170	80,000	15~1,950	5,000	30~60	600							
KUPA3625	180	90,000	17~2,450	6,000	40~75	680							
							Max. impact velocity		≤ 3.5 m/sec				
							Ambient temperature		-10~60 °C				

* Includes lock nut (2pcs).

How to Use

- Tighten the dial for dampening adjustment with wrench after optimal value is selected.
- Confirm whether the effective weight is in optimal range.
- Can decrease the noise 3~7dB by inserting Urethane cap to rod end button.
- Total energy per hour made out based on atmosphere temperature of 20 °C

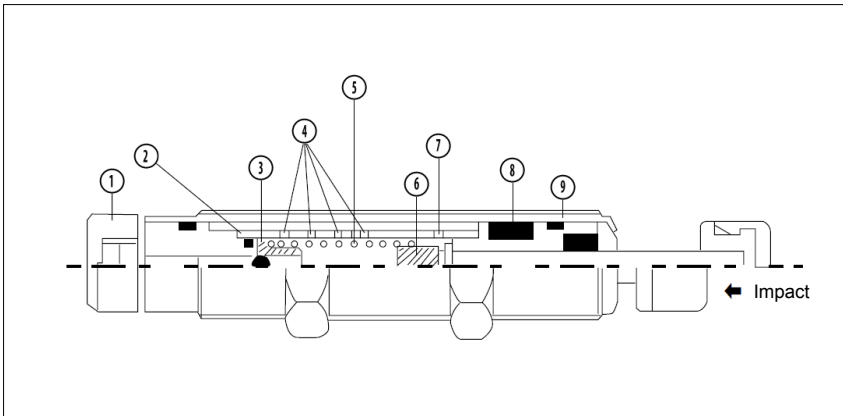
Adjustment Dial of Shock Absorber



- To achieve the optimal shock absorber range

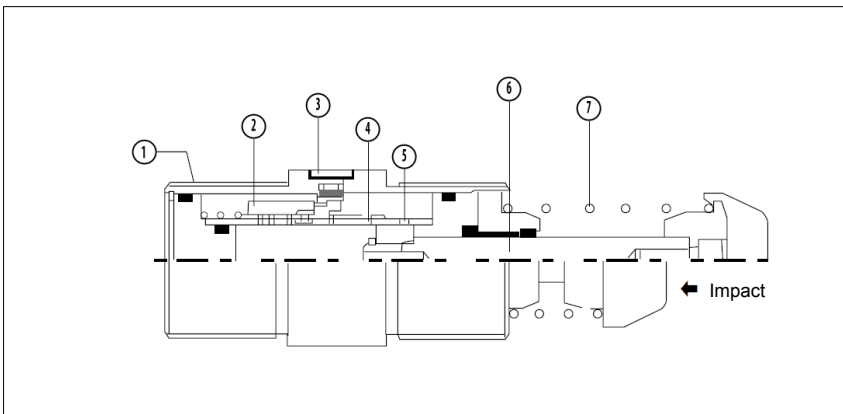
1. Mount the Shock Absorber.
2. Set adjustment to "0". If this is too soft, adjust to the next number in sequence until the desired shock absorber range is obtained.
3. Tighten the dial with provided wrench.

Structure (Small)



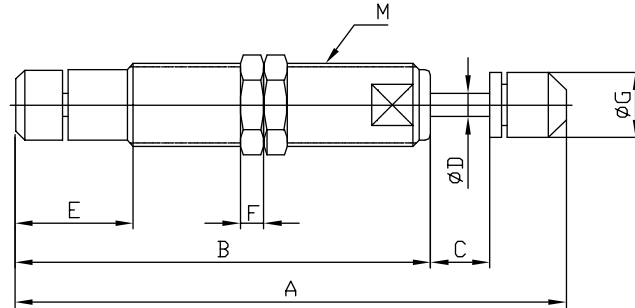
Part no.	Parts	Material
1	Adjustment dial	Carbon steel tube, SM45C
2	Inner tube	Carbon steel tube, STKM13C
3	Check valve	-
4	Orifice hole	-
5	Return spring	HSWR72A
6	Piston	Brass extruding tube, C2700BE
7	Oil return hole	-
8	Accumulator	-
9	Outer tube	Carbon steel tube, STKM13C

Structure (Large)



Part no.	Parts	Material
1	Outer tube	Carbon steel tube, STKM13C
2	Accumulator	-
3	Adjustment dial	Carbon steel tube, SM45C
4	Inner tube	Carbon steel tube, STKM13C
5	Oil return hole	-
6	Piston	Brass extruding tube, C2700BE
7	Return spring	HSWR72A

Dimensions-Adjustable Type(Standard)



Unit:mm

Model	Stroke	A	B	C	ØD	E	F	ØG	M
KPA1210	10	82.5	72.5	10	4	18.5	4	-	M12XP1.0
KUPA1210	10	95.5	72.5	10	4	18.5	4	11	M12XP1.0
KPA1410	10	80.5	70.5	10	4	20	4	-	M14XP1.5
KUPA1410	10	93.5	70.5	10	4	20	4	11	M14XP1.5
KPA1612	12	103	91	12	4	22	6	-	M16XP1.5
KUPA1612	12	116	91	12	4	22	6	14	M16XP1.5
KPA2015	15	116	98	15	6	22	6	-	M20XP1.5
KUPA2015	15	128.5	98	15	6	22	6	18	M20XP1.5
KPA2525	25	152	127	25	8	24	8	-	M25XP1.5
KUPA2525	25	168	127	25	8	24	8	22	M25XP1.5
KPA2725	25	152	127	25	8	24	8	-	M27XP3.0
KUPA2725	25	168	127	25	8	24	8	22	M27XP3.0

Shock Absorber & Gas Spring Shock Absorber Reference data

KPA KUPA

KSCA

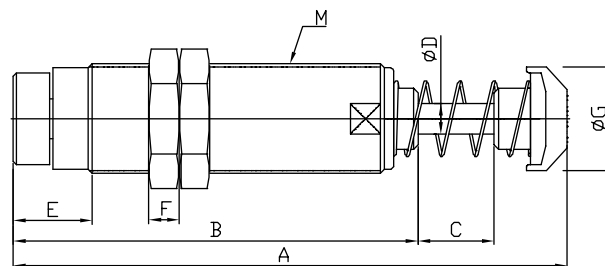
KCSC

Gas Spring Reference data

KBG-W

KBG-B

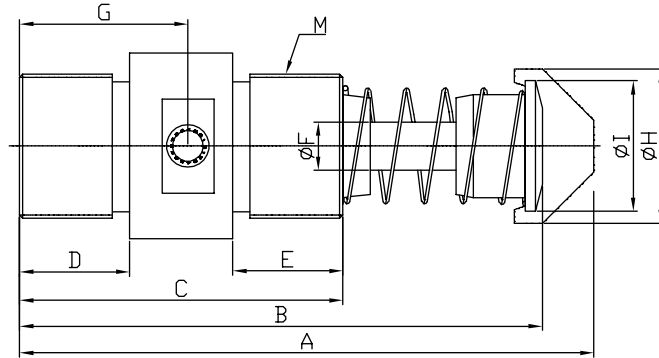
Dimensions-Adjustable Type (Medium)



Unit:mm

Model	Stroke	A	B	C	ØD	E	F	ØG	M
KUPA3035	35	198	148	35	10	24	10	28	M30XP1.5
KUPA3625	25	182	133	25	10	26	10	34	M36XP1.5
KUPA3650	50	232	158	50	10	26	10	34	M36XP1.5

Dimensions-Adjustable Type (Large)



Unit:mm

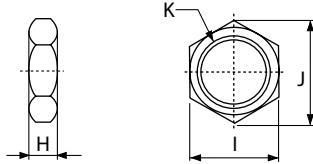
Model	Stroke	A	B	C	D	E	ØF	G	ØH	ØI	M
KUPA4225	25	167	152	94	32	29	14	49	45	38	M42XP1.5
KUPA4250	50	217	202	119	44	42	14	61.5	45	38	M42XP1.5
KUPA4275	75	267	252	144	56	55	14	74	45	38	M42XP1.5
KUPA64050	50	241	224	138	50	49	20	67.5	58	50	M64XP2.0
KUPA64100	100	341	324	188	74	74	20	95	58	50	M64XP2.0
KUPA64150	150	471	454	238	75	75	20	141	58	50	M65XP2.0
KUPA85050	50	270	240	143	45	45	22	75	78	70	M85XP2.0
KUPA85090	90	350	320	183	65	65	22	91.5	78	70	M85XP2.0
KUPA85125	125	425	395	218	65	65	22	116	78	70	M85XP2.0
KUPA85165	165	520	490	258	65	65	22	136	78	70	M85XP2.0

Dimensions-Accessories

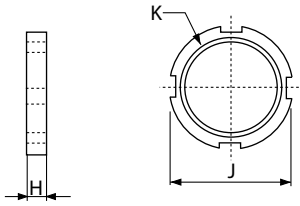
Lock Nut (Standard)

Material: Carbon steel

Standard & Medium
(M12~M36)



Large
(M42~M85)



※ M08~M36 include Lock Nut(2pcs)
※ M42~M85 include Lock Nut(1pc)

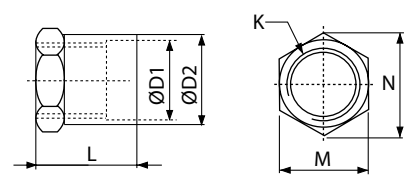
Unit:mm

Part no.	H	I	J	K
LOCK NUT 12	4	14	16	M12XP1.0
LOCK NUT 14	4	17	19.6	M14XP1.5
LOCK NUT 16	6	22	25.4	M16XP1.5
LOCK NUT 20	6	24	27.7	M20XP1.5
LOCK NUT 25	8	32	37	M25XP1.5
LOCK NUT 27	8	32	37	M27XP3.0
LOCK NUT 30	10	36	41.1	M30XP1.5
LOCK NUT 36	10	46	53.1	M36XP1.5
LOCK NUT 42	10	-	54	M42XP1.5
LOCK NUT 64	13	-	74	M64XP2.0
LOCK NUT 85	18	-	100	M85XP2.0

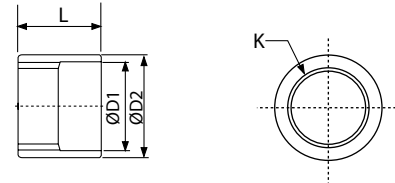
Stop Collar

Material: Carbon steel

Standard & Medium
(M14~M27)



Large
(M36~M85)



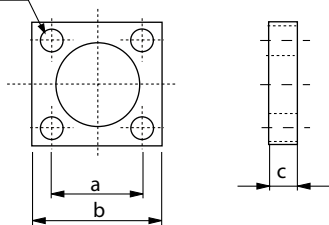
※ Only for M14~M27, M36~M85

Unit:mm

Part no.	H	M	N	ØD1	ØD2	L	K
STOP COLLAR 14	4	17	19.6	15	18	26	M14XP1.5
STOP COLLAR 16	6	22	25.4	17	19	25.4	M16XP1.5
STOP COLLAR 20	6	24	27.7	21	23	35	M20XP1.5
STOP COLLAR 25	8	32	37	26	31	40	M25XP1.5
STOP COLLAR 27	8	32	37	28	31	40	M27XP1.5
STOP COLLAR 36	10	-	-	37	45	60	M36XP1.5
STOP COLLAR 42	10	-	-	44	58	48	M42XP1.5
STOP COLLAR 64	13	-	-	66	75	60	M64XP2.0
STOP COLLAR 85	18	-	-	88	100	80	M85XP2.0

Square Flange

Material: Carbon steel
4-Ød



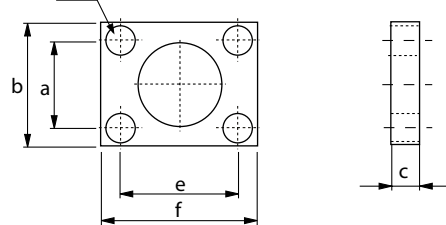
※ Only for M36, M42, M64, M85.

Unit:mm

Part no.	a	b	c	d
S/F 36	32	45	9	6
S/F 42	41.5	60	12	9
S/F 64	70	90	14	10
S/F 85	76	102	19	14

Rectangular Flange

Material: Carbon steel
4-Ød



※ Only for M36, M42, M64.

Unit:mm

Part no.	a	b	c	d	e	f
R/F 36	32	45	9	6	41.3	58.8
R/F 42	41.5	60	12	9	60.5	80
R/F 64	70	90	14	10	83.5	105

Shock Absorber & Gas Spring
Shock Absorber Reference data
KPA KUPA
KSCA
KCSC
Gas Spring Reference data
KBG-W
KBG-B