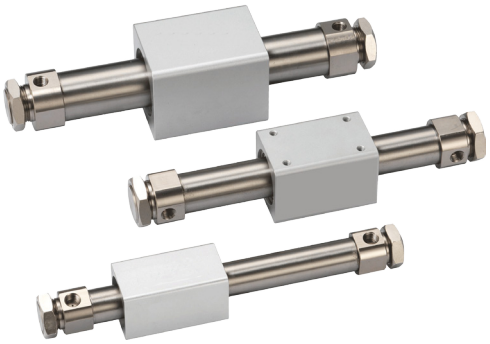


Features

- Work piece can be fixed on slide block directly and make long stroke, external without leakage and have long life. It can install sensor switch and hydraulic shock absorber.

Specification

Type	DGYS
Bore	Φ10、15、20、25、32、40
Power fluid	Air
The range of pressure	1.8～7.1 kgf/cm^2
Proof pressure	10.7 kgf/cm^2
Speed range	50～400 mm/s
Temperature range	-10℃～+60℃

How to order

DGYS	R	15	–	50	A	KT11R	2
Type	With magnet	Bore		Stroke	Accessories	Sensor switch	Quantity
 DGYS		10：Φ10 15：Φ15 20：Φ20 25：Φ25 32：Φ32 40：Φ40		Please see stroke table	No code：with adjustable screw A：with hydraulic shock absorber(2 pcs) B：with hydraulic shock absorber(A side)	KT11R	1：1pc 2：2pcs

Stroke table

Bore	Stroke (mm)
Φ10	50,100,150,200,250,300
Φ15	50,100,150,200,250,300,350,400,450,500
Φ20	100,150,200,250,300,350,400,450,500,600,700,800
Φ25	
Φ32	
Φ40	100,150,200,250,300,350,400,450,500,600,700,800,900,1000

Magnet effect

Unit：N (1N=0.101972kgf)

Bore	Φ10	Φ15	Φ20	Φ25	Φ32
Effect	53.9	137	231	363	588

Weight table

Unit：kg

Bore	Φ10	Φ15	Φ20	Φ25	Φ32
Basic weight	0.48	0.91	1.48	1.84	3.63
Stroke 50 weight	0.074	0.104	0.138	0.172	0.267

Calculation — Example：DGYS32X500 3.63+0.267X500÷50=6.3kg
Basic weight — 3.63kg
Additional weight — 0.267/50st
Stroke — 500st

Specific product precautions

⚠ Caution

Before servicing this unit read this entire product information sheet.

1. Because of actions such as changes in cylinder fast actuation and there are swings for mechanism design, it would be dangerous of pounding motion.
   As this situation, it would crush hands and feet or damage the machine. Please adjust mechanism design to run smoothly or do not cause damage to operator.
2. Please confirm fixed position or link site of cylinder that locking is not loosening.
   Especially in actuation frequency area or shock area when using the cylinder. Please confirm the method of cylinder locking to fix.
3. May need slow loop or hydraulic shock absorber.
   Work piece is moved when speed of moving is very fast or weight is very heavy, it may occur reason of power failure make loop pressure down and reduce clamping force then cause risk of goods fly out. So, please set deceleration circuit before entering the hydraulic shock absorber or using external shock absorber and other measures of ease the impact.

Please also review the stiffness of mechanism equipment fully.

Service and maintenance precautions

⚠ Warning

1. Please attention the adsorption capacity of magnet is very strong.
   Because of maintenance reason to remove slide movement component and piston movement component from cylinder tube, as install in each movement component that absorption capacity of magnet is very strong, please attention fully when using.

⚠ Caution

1. Please attention the piston movement components adsorption directly when taken out slide movement components.
   When taken out slide movement components or piston movement components from piston tube, please enforce to remove the location of magnet piston components that keeping the state of not attract mutually. By the way, it will not be attracted to the magnet and unable detach.
2. Please never disassemble the part arbitrary. (slide movement component and piston movement component)
   The wrong disassembling will make maintain force down and malfunction.

Warning for design

Finding δ selection allowable load of method

δ refer to the bellowing table, it related with maximum weight of load and stroke, with the stroke change and therefore can be regarded as a coefficient set for each stroke.

Example：DGYS25×650

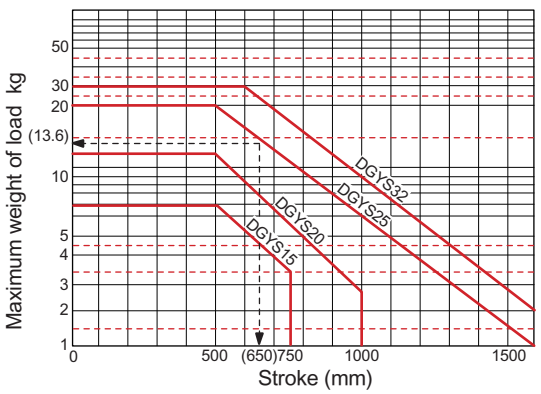
1. Max. weight of load = 20kg
2. When stroke = 650 , max. weight of load =13.6kg
3. $\delta = \frac{13.6}{20} = 0.68$

The method of δ calculation($\delta \leqq 1$)

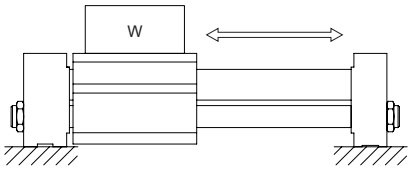
Type	DGYS10	DGYS15	DGYS20	DGYS25
δ =	$\frac{10^{(0.86-1.3\times10^{-3}\times ST)}}{3}$	$\frac{10^{(1.5-1.3\times10^{-3}\times ST)}}{7}$	$\frac{10^{(1.71-1.3\times10^{-3}\times ST)}}{12}$	$\frac{10^{(1.98-1.3\times10^{-3}\times ST)}}{20}$

Type	DGYS32	DGYS40
δ =	$\frac{10^{(2.26-1.3\times10^{-3}\times ST)}}{30}$	$\frac{10^{(2.48-1.3\times10^{-3}\times ST)}}{50}$

Note： ϕ10 ～ 300mmST
ϕ15 ～ 300mmST
ϕ20 ～ 500mmST
ϕ25 ～ 500mmST
ϕ32 ～ 600mmST
ϕ40 ～ 600mmST
calculated by δ =1 when using.



Model selection method

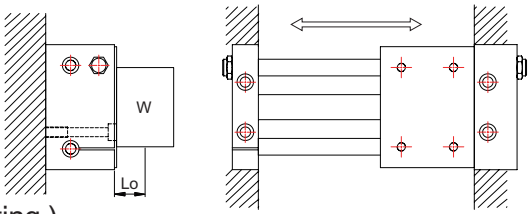


1.Horizontal(Slide mounting)

Max. weight of load (Slide center)

Bore	ϕ10	ϕ15	ϕ20	ϕ25	ϕ32	ϕ40
W(kg)	3	7	12	20	30	50
Stroke (MAX)	～300st	～500st	～500st	～500st	～600st	～600st

Basic design value：Maximum weight of load is 60% of maximum thrust (P=0.7MPa). However, due to limit the guide shaft bending Value, each cylinder size also change following weight by the stroke length. (Please attention δ coefficient.) Because the actuation direction, allowable load and basic design valve are different.



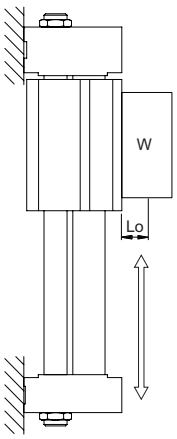
Lo：the diantance from the installation faceplate to the load center (cm)

2.Horizontal (Faceplate mounting)

Bore	ϕ10	ϕ15	ϕ20	ϕ25	ϕ32	ϕ40
Allow load (kg)	$\frac{δ \cdot 12.0}{8.4+2Lo}$	$\frac{δ \cdot 36.4}{10.6+2Lo}$	$\frac{δ \cdot 74.4}{12+2Lo}$	$\frac{δ \cdot 140}{13.8+2Lo}$	$\frac{δ \cdot 258}{17+2Lo}$	$\frac{δ \cdot 520}{20.6+2Lo}$

3.Vertical

Bore	Allow load (kg)
ϕ10	$\frac{δ \cdot 4.16}{2.2+Lo}$
ϕ15	$\frac{δ \cdot 13.23}{2.7+Lo}$
ϕ20	$\frac{δ \cdot 26.8}{2.9+Lo}$
ϕ25	$\frac{δ \cdot 44.0}{3.4+Lo}$
ϕ32	$\frac{δ \cdot 88.2}{4.2+Lo}$
ϕ40	$\frac{δ \cdot 167.8}{5.1+Lo}$



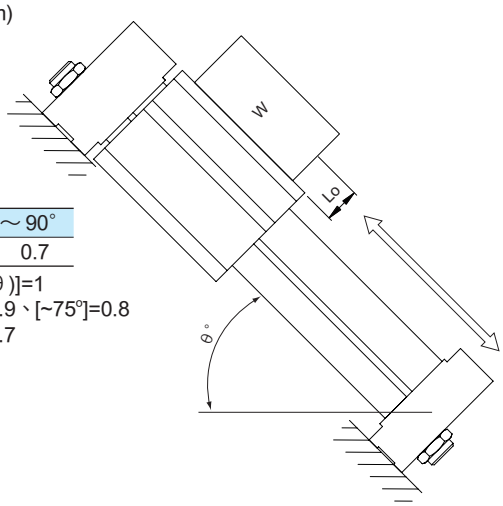
Lo：the diantance from the installation faceplate to the load center (cm)
Note：Considered safety coefficient of prevent the fall

4.Oblique (Operating direction)

Bore	Allow load (kg)
ϕ10	$\frac{δ \cdot 10.5 \cdot K}{3.5\cos θ +2(2.2+Lo)\sin θ}$
ϕ15	$\frac{δ \cdot 35 \cdot K}{5\cos θ +2(2.7+Lo)\sin θ}$
ϕ20	$\frac{δ \cdot 72 \cdot K}{6\cos θ +2(2.9+Lo)\sin θ}$
ϕ25	$\frac{δ \cdot 120 \cdot K}{6\cos θ +2(3.4+Lo)\sin θ}$
ϕ32	$\frac{δ \cdot 210 \cdot K}{7\cos θ +2(4.2+Lo)\sin θ}$
ϕ40	$\frac{δ \cdot 400 \cdot K}{8\cos θ +2(5.1+Lo)\sin θ}$

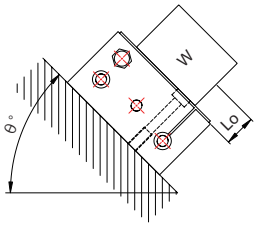
Angle	～45°	～60°	～75°	～90°
K	1	0.9	0.8	0.7

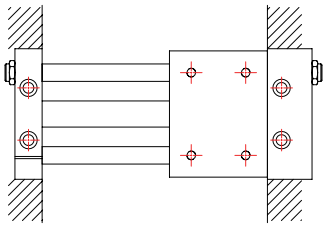
Angle coefficient (K)：K=[~45°(= θ)]=1
[~60°]=0.9、[~75°]=0.8
[~90°]=0.7



Lo：the diantance from the installation faceplate to the load center (cm)

5.Oblique(Vertical with operating direction)



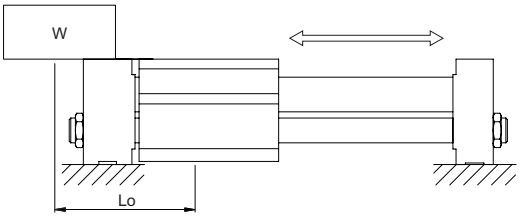


Lo：the diantance from the installation faceplate to the load center (cm)

Bore	ϕ10	ϕ15	ϕ20	ϕ25
Allow load (kg)	$\frac{\delta \cdot 12.0}{4+2(2.2+Lo)\sin\theta}$	$\frac{\delta \cdot 36.4}{5.2+2(2.7+Lo)\sin\theta}$	$\frac{\delta \cdot 74.4}{6.2+2(2.9+Lo)\sin\theta}$	$\frac{\delta \cdot 140}{7+2(3.4+Lo)\sin\theta}$

Bore	ϕ32	ϕ40
Allow load (kg)	$\frac{\delta \cdot 258}{8.6+2(4.2+Lo)\sin\theta}$	$\frac{\delta \cdot 520}{10.4+2(5.1+Lo)\sin\theta}$

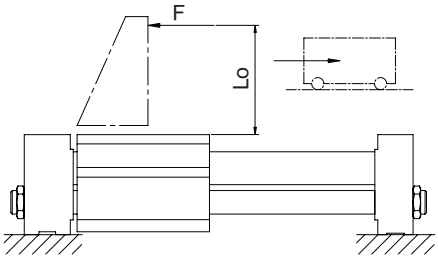
6. Distance of load center to actuation direction (Lo)



Lo：the diantance from the installation faceplate to the load center (cm)

Bore	ϕ10	ϕ15	ϕ20	ϕ25	ϕ32	ϕ40
Allow load (kg)	$\frac{\delta \cdot 5.25}{Lo+3.5}$	$\frac{\delta \cdot 17.5}{Lo+5.0}$	$\frac{\delta \cdot 36}{Lo+6.0}$	$\frac{\delta \cdot 60}{Lo+6.0}$	$\frac{\delta \cdot 105}{Lo+7.0}$	$\frac{\delta \cdot 200}{Lo+8.0}$

7.Horizontal(Pressure load)

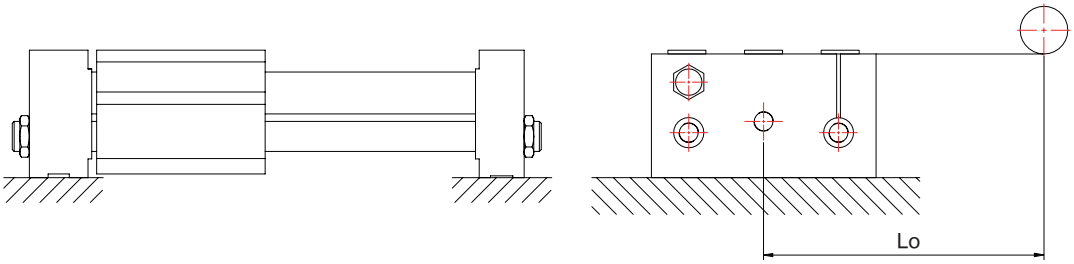


Lo：the diantance from the installation faceplate to the load center (cm)

F：Driver resistance (From the position of the Lo slider)(kg)

Bore	ϕ10	ϕ15	ϕ20	ϕ25	ϕ32	ϕ40
Allow load (kg)	$\frac{\delta \cdot 5.25}{2.2+Lo}$	$\frac{\delta \cdot 17.5}{2.7+Lo}$	$\frac{\delta \cdot 36}{2.9+Lo}$	$\frac{\delta \cdot 60}{3.4+Lo}$	$\frac{\delta \cdot 105}{4.2+Lo}$	$\frac{\delta \cdot 200}{5.1+Lo}$

8.Horizontal(The Lo distance from load to work piece)



Lo：the diantance from the installation faceplate to the load center (cm)

Bore	ϕ10	ϕ15	ϕ20	ϕ25	ϕ32	ϕ40
Allow load (kg)	$\frac{\delta \cdot 8.40}{4+Lo}$	$\frac{\delta \cdot 25.48}{5.2+Lo}$	$\frac{\delta \cdot 52.1}{6.2+Lo}$	$\frac{\delta \cdot 98}{7.0+Lo}$	$\frac{\delta \cdot 180}{8.6+Lo}$	$\frac{\delta \cdot 364}{10.4+Lo}$

Model selection method

⚠ Caution

Vertical

Consideration to avoid piston magnet component when using in vertical, please refer to below table that maximum weight of load and maximum operating pressure

Attention — When using more than maximum weight of load and maximum operating pressure, please attention piston magnet component break away.

Bore	Allow weight of load Wv(kg)	Max. operating pressure Pv(MPa)
ϕ 10	2.7	0.55
ϕ 15	7.0	0.65
ϕ 20	11.0	0.65
ϕ 25	18.5	0.65
ϕ 32	30.0	0.65
ϕ 40	47.0	0.65

Intermediate stop

1. Load with external brake to intermediate stop or with adjustable screw to adjust stroke. Load with external brake to intermediate stop or with attachment adjustable screw to adjust stroke. Please use within the following range.
   Attention — When using more than operating pressure range, please attention piston magnet component break away.

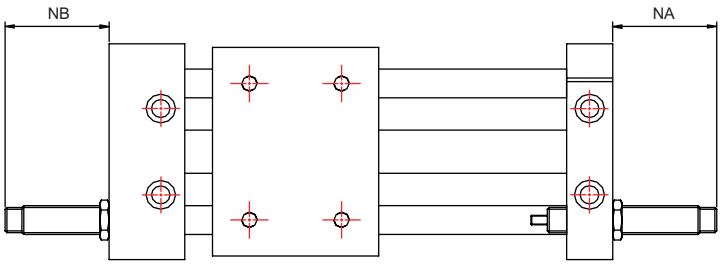
2. Load with pneumatic circuit when intermediate stop. Please use sport energy in below table, can not use pneumatic circuit to intermediate stop when vertical actuator.

Bore	Operating pressure when intermediate stop Ps(MPa)
ϕ 10	0.55
ϕ 15	0.65
ϕ 20	
ϕ 25	
ϕ 32	
ϕ 40	

Bore	Possible sport energy when intermediate stop Es(J)
ϕ 10	0.03
ϕ 15	0.13
ϕ 20	0.24
ϕ 25	0.45
ϕ 32	0.88
ϕ 40	1.53

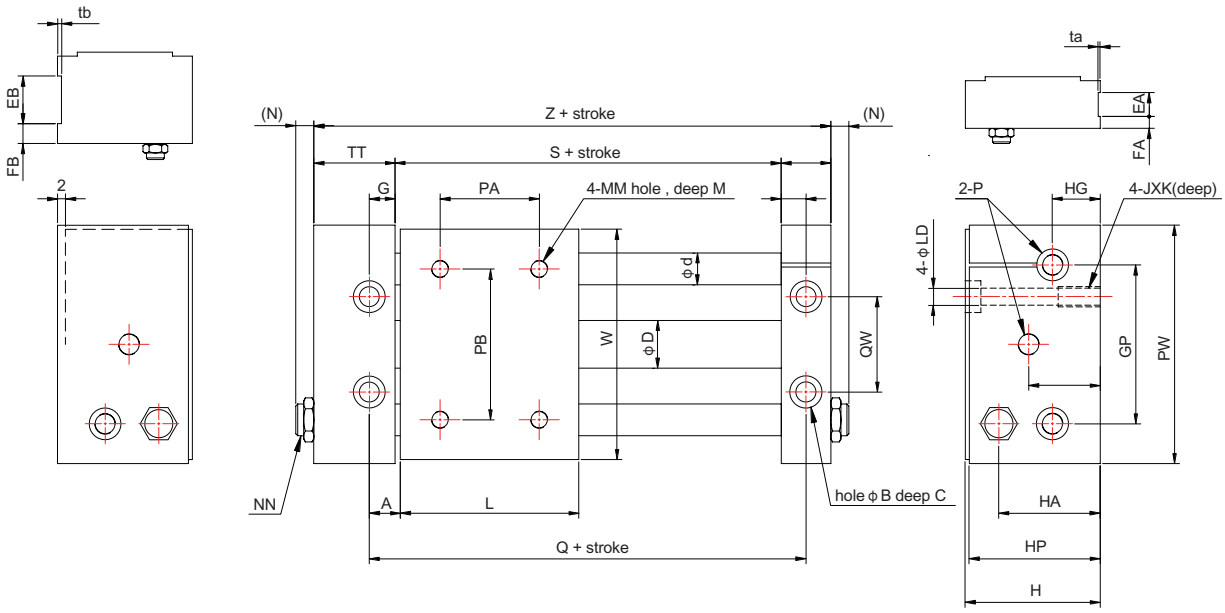
Cushion specification

Type	DGYS10 / 15	DGYS20	DGYS25	DGYS32 / 40
Cushion type	AC0806-N	AC1007~N	AC1412-N	AC2015-N
The maximum absorption of energy (Nm)	3	6	20	59
Absorb stroke (mm)	6	7	12	15
Maximum shock speed (m/s)	0.3~2.5	0.3~3.5	0.3~5.0	
Temperature (℃)	-10℃～ +80℃			



Bore	Cushion type	NA	NB
ϕ 10	AC0806-N	27	19
ϕ 15		27	17
ϕ 20	AC1007-N	29	20
ϕ 25	AC1412-N	49	40
ϕ 32	AC2015-N	52	42
ϕ 40		51	36

DGYS Dimensional features



Dimensional table

Mark / Bore	A	B	C	D	d	EA	EB	FA	FB	G	GP	H	HA	HG	HP	HT	JXK	L	LD
Φ10	7.5	8	4	12	8	6	12	3	5	6.5	40	34	25.5	12	33	18	M5x0.8x10.5	45	4.3
Φ15	7.5	9.5	5	17.4	12	6	13	3	6	6.5	52	40	29	13	39	21	M6x1.0x10	60	5.5
Φ20	10	9.5	5.2	21.6	16	—	—	—	—	8.5	62	46	36	17	45	20	M6x1.0x9.5	70	5
Φ25	10	11	6.5	26.4	16	8	14	4	7	8.5	70	54	40	20	53	20	M8x1.25x11	70	6.8
Φ32	12.5	14	8	33.6	20	8	16	5	7	9.5	86	66	46	24	64	24	M10x1.5x15.5	85	8.7
Φ40	12.5	15	9	41.6	25	10	20	5	10	10.5	104	76	57	25	74	25	M10x1.5x16	95	8.7

Mark / Bore	M	MM	(N)	NN	P	PA	PB	PW	Q	QW	S	T	TT	ta	tb	W	Z
Φ10	8	M4x0.7	9.5	M8x1.0	M5x0.8	25	38	60	60	24	47	12.5	20.5	0.5	1	58	80
Φ15	8	M5x0.8	7.5	M8x1.0	M5x0.8	30	50	75	75	30	62	12.5	22.5	0.5	1	72	97
Φ20	10	M6x1.0	9.5	M10x1.0	Rc(PT)1/8"	40	70	90	90	38	73	16.5	25.5	—	—	87	115
Φ25	10	M6x1.0	11	M14x1.5	Rc(PT)1/8"	40	70	100	90	42	73	16.5	25.5	0.5	1	97	115
Φ32	12	M8x1.25	11.5	M20x1.5	Rc(PT)1/8"	40	75	122	110	50	91	18.5	28.5	0.5	1	119	138
Φ40	12	M8x1.25	10.5	M20x1.5	Rc(PT)1/4"	65	105	145	120	64	99	20.5	35.5	1	1	142	155