

### How to Order ?

Series No.	Cushion Type	Type No.	Bore	X	Stroke	Adjustable stroke	Magnet No.	Seal material	Mounting type	Thread type
	C: Air cushion	32 80	25	10	Blank: without magnet	Blank: No	Blank: G			
		40 ...	50	20	S: with magnet	CA	P: PT			
TB: Round type barrel		50 100	75	30		CB	T: NPT			
XB: X type barrel		63	...	40		CR				
				50		LB				
				75		FA				
				100		FB				
						IJ				
						YJ				
						YCJ				
						BJ				
						...				

**Order Example:**  
 TBC series, double shaft air cylinder, bore 40mm, stroke 50mm, with magnet, NBR seal, CA mounting accessory, NPT thread.  
 EPR code is: TBC40X50-S-CA-T  
 Note: If cylinder with several different mounting accessories, please use this sequential coding: CA/CB/CR/LB/FA/FB/IJ/YJ/BJ/FD

### Product Features

- \* Provided with adjustable cushion on both end covers to make sure the cylinder works very smoothly, safely and with low noise.
- \* With self lubricating bearing, the piston rod is lubrication free.
- \* Magnet and sufficient fixing styles are available.

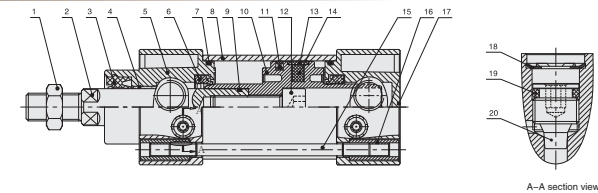
### Specifications

Bore Size (mm)	32	40	50	63	80	100
Acting type	Double Acting					
Working medium	Clean Air(40 μm filtration)					
Working pressure (MPa)	0.1-1.0					
Guaranteed pressure (MPa)	1.5					
Working temperature (°C)	-20-80(Dry air)					
Speed range (mm/s)	50-800					
Cushion type	Adjustable Cushion					
Cushion stroke (mm)	25		24		30	
Mounting type	LB FA FB CA CB CR TC TCM					
Port size ①	G1/8		G1/4		G1/2	

① NPT, PT port size is optional.

Bore (mm)	Standard stroke (mm)	Max. stroke (mm)
32	25 50 75 80 100 125 150 160 175 200 250 300 350 400 450 500	1900
40	25 50 75 80 100 125 150 160 175 200 250 300 350 400 450 500 600 700 800	1900
50-250	25 50 75 80 100 125 150 160 175 200 250 300 350 400 450 500 600 700 800 900 1000	1900

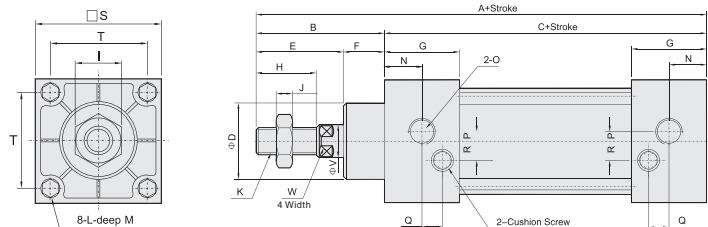
### Internal structure



NO.	Part name	Material
1	Nut	Carbon steel
2	Piston rod	S45C hard chrome carbon steel
3	Piston rod seal	TPU
4	Self lubricating bearing	Bronze powder
5	Head cover	Aluminum alloy
6	Cushion seal	NBR
7	O-ring	NBR
8	Barrel	Aluminum alloy
9	O-ring	NBR
10	Piston	Aluminum alloy
11	Piston seal	NBR
12	Screw	Carbon steel
13	Wear ring	PTFE
14	Magnet	Plastic
15	Tie rod	Carbon steel
16	Tie rod nut	Carbon steel
17	Rear cover	Aluminum alloy
18	Retainer ring	Spring steel
19	O-ring	NBR
20	Nut	Brass

Main Dimensions

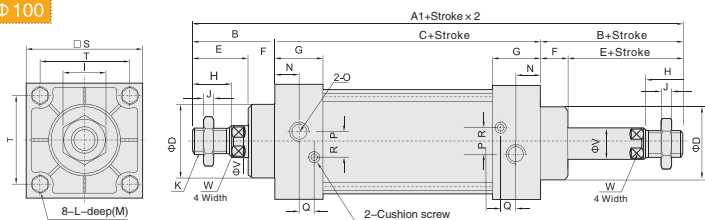
TBC  $\Phi 32 - \Phi 100$



Bore/Sign	A	B	C	D	E	F	G	H	I	J	K	L
32	140	47	93	26	32	15	27.5	22	17	6	M10 x 1.25	M6 x 1
40	142	49	93	32	34	15	27.5	24	17	7	M12 x 1.25	M6 x 1
50	150	57	93	38	42	15	27.5	32	23	8	M16 x 1.5	M6 x 1
63	153	57	96	38	42	15	27.5	32	23	8	M16 x 1.5	M8 x 1.25
80	182	75	107	46	54	21	33	40	26	10	M20 x 1.5	M10 x 1.5
100	188	75	113	46	54	21	33	40	26	10	M20 x 1.5	M10 x 1.5

Bore/Sign	M	N	O	P	Q	R	S	T	V	W
32	13	14	1/8"	3.5	7	6.5	45	33	12	10
40	13	13.5	1/4"	5	5.5	8.5	50	37	16	14
50	13	14.5	1/4"	8.5	3	11	62	47	20	17
63	13	15	3/8"	7	5	9.5	75	56	20	17
80	15.5	16.5	3/8"	7	8	10	94	70	25	22
100	15.5	16.5	1/2"	7.5	8	13	112	84	25	22

TBCD  $\Phi 32 - \Phi 100$



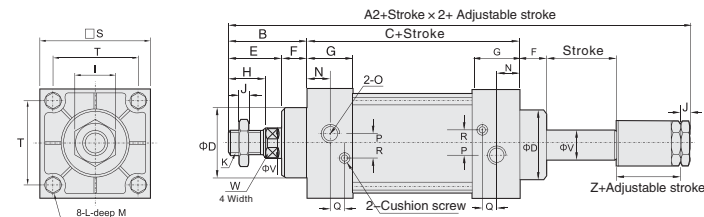
Bore/Sign	A1	B	C	D	E	F	G	H	I	J	K	L
32	187	47	93	26	32	15	27.5	22	17	6	M10 x 1.25	M6 x 1
40	191	49	93	32	34	15	27.5	24	17	7	M12 x 1.25	M6 x 1
50	207	57	93	38	42	15	27.5	32	23	8	M16 x 1.5	M6 x 1
63	210	57	96	38	42	15	27.5	32	23	8	M16 x 1.5	M8 x 1.25
80	257	75	107	46	54	21	33	40	26	10	M20 x 1.5	M10 x 1.5
100	263	75	113	46	54	21	33	40	26	10	M20 x 1.5	M10 x 1.5

Bore/Sign	M	N	O	P	Q	R	S	T	V	W
32	13	14	1/8"	3.5	7	6.5	45	33	12	10
40	13	13.5	1/4"	5	5.5	8.5	50	37	16	14
50	13	14.5	1/4"	8.5	3	11	62	47	20	17
63	13	15	3/8"	7	5	9.5	75	56	20	17
80	15.5	16.5	3/8"	7	8	10	94	70	25	22
100	15.5	16.5	1/2"	7.5	8	13	112	84	25	22

Note: 1. With magnet and without magnet, the dimensions are same.  
2. XBC series dimensions is same as TBC.

Main Dimensions

TBCJ  $\Phi 32 - \Phi 100$

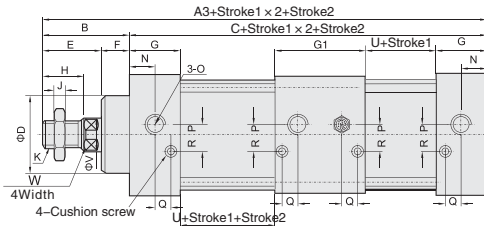
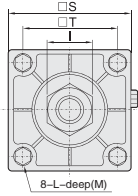


Bore/Sign	A2	B	C	D	E	F	G	H	I	J	K	L
32	182	47	93	26	32	15	27.5	22	17	6	M10 x 1.25	M6 x 1
40	185	49	93	32	34	15	27.5	24	17	7	M12 x 1.25	M6 x 1
50	196	57	93	38	42	15	27.5	32	23	8	M16 x 1.5	M6 x 1
63	199	57	96	38	42	15	27.5	32	23	8	M16 x 1.5	M8 x 1.25
80	242	75	107	46	54	21	33	40	26	10	M20 x 1.5	M10 x 1.5
100	248	75	113	46	54	21	33	40	26	10	M20 x 1.5	M10 x 1.5

Bore/Sign	M	N	O	P	Q	R	S	T	V	W	Z
32	13	14	1/8"	3.5	7	6.5	45	33	12	10	21
40	13	13.5	1/4"	5	5.5	8.5	50	37	16	14	21
50	13	14.5	1/4"	8.5	3	11	62	47	20	17	23
63	13	15	3/8"	7	5	9.5	75	56	20	17	23
80	15.5	16.5	3/8"	10	8	10	94	70	25	22	29
100	15.5	16.5	1/2"	7.5	8	13	112	84	25	22	29

Main Dimensions

TBCT  $\Phi 32 - \Phi 100$

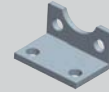


Bore/Sign	A3	B	C	D	E	F	G	G1	H	I	J	K	L
32	233	47	186	26	32	15	27.5	55	22	17	6	M10 x 1.25	M6 x 1
40	235	49	186	32	34	15	27.5	55	24	17	7	M12 x 1.25	M6 x 1
50	196	57	186	38	42	15	27.5	55	32	23	8	M16 x 1.5	M6 x 1
63	199	57	192	38	42	15	27.5	55	32	23	8	M16 x 1.5	M8 x 1.25
80	242	75	221	46	54	21	33	73	40	26	10	M20 x 1.5	M10 x 1.5
100	248	75	233	46	54	21	33	73	40	26	10	M20 x 1.5	M10 x 1.5

Bore/Sign	M	N	O	P	Q	R	S	T	V	U	W
32	13	14	1/8"	3.5	7	6.5	45	33	12	38	10
40	13	13.5	1/4"	5	5.5	8.5	50	37	16	38	14
50	13	14.5	1/4"	8.5	3	11	62	47	20	38	17
63	13	15	3/8"	7	5	9.5	75	56	20	41	17
80	15.5	16.5	3/8"	10	8	10	94	70	25	41	22
100	15.5	16.5	1/2"	7.5	8	13	112	84	25	47	22

Note: 1. With magnet and without magnet, the dimensions are same.  
2. XBC series dimensions is same as TBC.

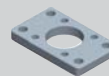
Dimension of Mounting Accessories



LB dimension

Model	Sign	AA	AC	AD	AE	AF	AG	AH	AP	AT
FJ-TBC32LB		153	134	10.5	50	33	19.5	28	9	3
FJ-TBC40LB		169	140	14.5	57	36	23.5	30	12	3
FJ-TBC50LB		173	149	11.5	68	47	28.5	36.5	12	3
FJ-TBC63LB		184	158	13	80	56	32	41	12	3
FJ-TBC80LB		199	167	16	97	70	29	49	14	4
FJ-TBC100LB		209	173	18	112.5	84	30	57	14	4

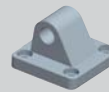
Note: TBC125 bore more accessory attachment borrow VBC cylinder.



FA/FB dimension

Model	Sign	BA	BB	BC	BD	BE	BF	BH	AJ	AK	BP	T
FJ-TBC32FA		29	10	48	33	73	58	7	11	7	7	33
FJ-TBC40FA		32	11	52	36	84	70	8	11	7	7	37
FJ-TBC50FA		39	10	64	47	105	86	5.5	11	7	9	47
FJ-TBC63FA		39	12	73	56	116	98	8.5	14	9	9	56
FJ-TBC80FA		48	16	92.5	70	143	119	11	17	11	11	70
FJ-TBC100FA		49	15	113.5	84	162	138	10.5	17.5	11	11	84

Note: TBC125 bore more accessory attachment borrow VBC cylinder.



CA dimension

Model	Sign	S	T	DC	DD	DE	DJ	DQ
FJ-TBC32CA		48	33	34	14	12	24	16
FJ-TBC40CA		49.5	37	34	14	14	23.5	20
FJ-TBC50CA		62	47	33.5	15	14	22	20
FJ-TBC63CA		74	56	34	14	14	24	20
FJ-TBC80CA		93	70	48	18	20	34.5	32
FJ-TBC100CA		110	84	48	19	20	33	32

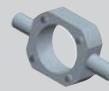
Note: TBC125 bore more accessory attachment borrow VBC cylinder.



CB dimension

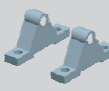
Model	Sign	CC	CD	CE	CJ	CP	CT	S	T
FJ-TBC32CB		19	5	12	13	16.3	31	46.5	33
FJ-TBC40CB		19	5	14	13	20.3	44	50	37
FJ-TBC50CB		19	3	14	15	20.3	52	62	47
FJ-TBC63CB		19	3	14	11.5	20.3	52	73	56
FJ-TBC80CB		32	8	20	18.5	32.3	64	93	70
FJ-TBC100CB		32	8	20	19.5	32.3	64	110.5	84

Note: TBC125 bore more accessory attachment borrow VBC cylinder.



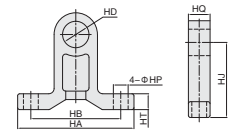
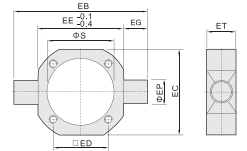
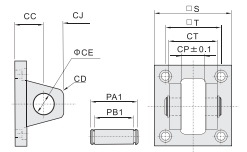
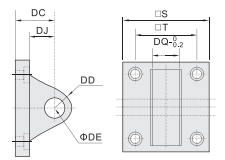
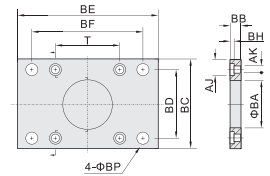
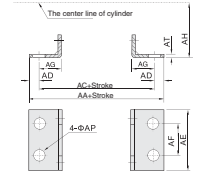
TC dimension

Model	Sign	EB	EC	ED	EE	EG	EP	ET	S
FJ-TBC32TC		88.5	53	33	55	16	16	30.5	38
FJ-TBC40TC		113	63	37	63	25	25	32	45.5
FJ-TBC50TC		127	76	47	75	26	25	30	56.5
FJ-TBC63TC		141	89	56	88	26	25	32	69.5
FJ-TBC80TC		164	105	70	113	25	25	35	88
FJ-TBC100TC		182	131	84	132	25	25	42	107.5
FJ-TBC125TC		210.5	154	110	154	28	30	40	134.5
FJ-TBC160TC		270	202	140	202	33	32	38	172
FJ-TBC200TC		320	251	175	251	36	32	49	218



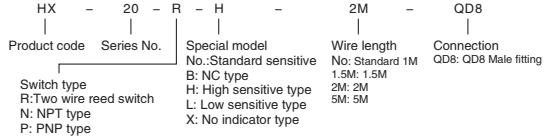
TCM dimension

Model	Sign	HA	HB	HD	HP	HT	HQ	HJ
FJ-TBC32TCM		110.5	80	16	12	13	21.5	51
FJ-TBC40/50/63TCM		111.5	80	25.5	12	10.5	21	50.5
FJ-TBC80/100TCM		110	85	25.5	14	15	20.5	71
FJ-TBC125TCM		148	110	30	14	28.5	28.5	83.5
FJ-TBC160TCM		190	140	32	22	24	32	109
FJ-TBC200TCM		201	150	32	22	29	34	156.5



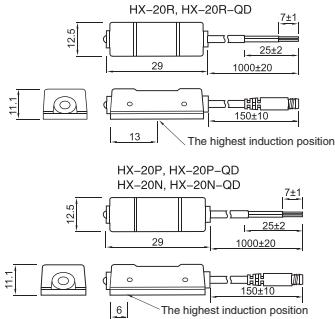


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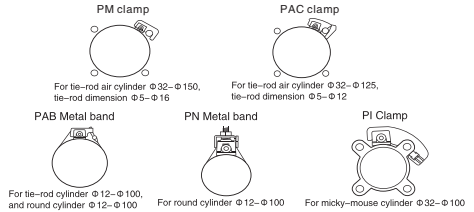


- Note: 1. Testing with standard magnet:  $\Phi 15.5 \times \Phi 8 \times 5t$  ( Plastic magnet );  
 2. Sine wave/X, Y, Z3 axial direction/ each axial direction three times/ each time 11ms;  
 3. complex amplitude 1.5mm/10Hz-55Hz sweep frequency, last one minute/ each time X, Y, Z axial direction for one hour;  
 4. 1-No/2-output short circuit protection/3=Power reverse connection protection/4=Surge absorption protection

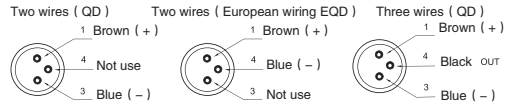
### Dimensions



### Installation of HX-20



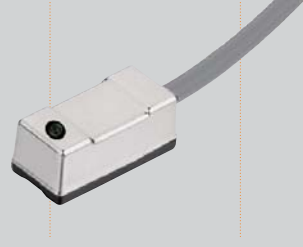
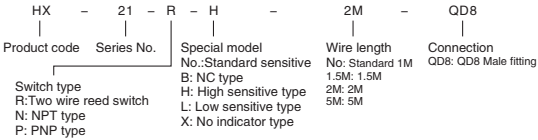
### QD fitting wiring



### Specification

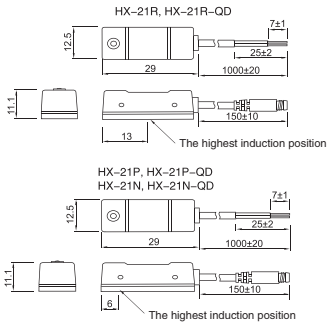
Type	HX-20R	HX-20RB	HX-20N	HX-20P
Connect Diagram				
Parameter				
Wiring method	2-Wire Type		3-Wire Type	
Switching logic	SPST Normally Open	SPST Normally close	Solid State Output, Normally Open	
Sensor type	Reed switch		NPN type ( Input )	PNP type ( Output )
Operating voltage	5-240V DC/AC	5-120V DC/AC	5-30V DC	
Max. switching current	100 mA max.		200 mA max.	
Contact rating	10 W max.		6 W max.	
Current consumption	None		20mA @ 24V DC max	
Voltage drop	3.5V max.		0.5V max @ 200mA	
Leakage current	None		0.01mA max.	
Indicator	Green LED		Red LED	Green LED
Max. exchange frequency	200Hz		1000Hz	
Temperature range			10-70°C	
Shock	30G		50G	
Vibration			9G	
Enclosure classification	None		IEC 529 IP67 (NEMA 6)	
Protection circuit			Power reverse connection protection	Surge absorption protection
Cable	2.8Φ、2C, Gray color, oil resistance PVC		2.8Φ、3C, Gray color, oil resistance PVC	

## How to Order?

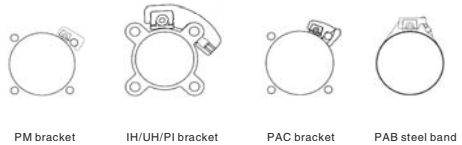


- Note: 1. Testing with standard magnet:  $\Phi 15.5 \times \Phi 8 \times 5$  ( Plastic magnet ) ;  
 2. Sine wave/X, Y, Z3 axial direction/ each axial direction three times/ each time 11ms;  
 3. complex amplitude 1.5mm/10Hz-55Hz sweep frequency, last one minute/ each time X, Y, Z axial direction for one hour;  
 4. 1=No/2=output short circuit protection/3=Power reverse connection protection/4=Surge absorption protection

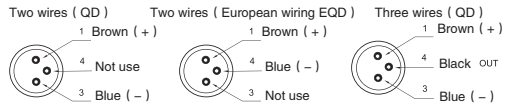
## Dimensions



## Installation of HX-21



## QD fitting wiring



## Specification

Type	HX-21R	HX-21RB	HX-20N	HX-20P
Connect Diagram				
Parameter				
Wiring method	2-Wire Type		3-Wire Type	
Switching logic	SPST Normally Open	SPST常闭型	Solid State Output, Normally Open	
Sensor type	Reed switch		NPN type ( Input )	PNP type ( Output )
Operating voltage	5-240V DC/AC	5-120V DC/AC	5-30V DC	
Max. switching current	100 mA max.		200 mA max.	
Contact rating	10 W max.		6 W max.	
Current consumption	None		20mA @ 24V DC max	
Voltage drop	3.5V max.		0.5V @ 200mA max	
Leakage current	None		0.01mA max.	
Indicator			Red LED	Green LED
Max. exchange frequency	200Hz		1000Hz	
Temperature range			10 - 70°C	
Shock	30G		50G	
Vibration			9G	
Enclosure classification			IEC 529 IP67 (NEMA 6)	
Protection circuit	None		Power reverse connection protection	Surge absorption protection
Cable	4.0Φ, 2C, Gray color, oil resistance PVC		4.0Φ, 3C, Black color, oil resistance PVC	