

A photograph of a curved roller conveyor belt in a warehouse. Several cardboard boxes are moving along the belt, which is composed of many parallel metal rollers. The background is slightly blurred, showing more boxes and a person in a blue shirt working in the distance.

Roller Selection Manual

Roller selection manual

Revised Version of the Product Selection Manual (A)

I. Transport Rolls

A roller is a mechanical component consisting of a cylindrical or regular polygonal shape mounted around a central axis, which rotates passively under mechanical force to transport goods along its surface. Based on the driving force, rollers are classified into non-powered and powered types: non-powered conveyance relies on gravity or manual pushing/pulling, while powered conveyance utilizes a power source (e.g., an electric motor or electric roller) to drive the roller via a belt or chain for cargo transportation.

Rollers are widely used in industries such as warehousing & logistics, security inspection, retail & e-commerce, food & beverage, pharmaceuticals, fresh food cold chain, and industrial manufacturing. Depending on specific application requirements, engineers have developed various types of rollers including support rollers, stacking rollers, turning rollers, electric rollers, driving (active) rollers, driven (passive) rollers, and alignment rollers.

II. Product Information

Product name	Driving Method	Bearing Housing Style	Product line	Spring Press-in Type	Internal thread	Milling flat
Non-powered roller	Not have	Steel bearing housing	W1100	*	*	*
	Not have	Plastic-steel bearing housing	W1200	*	*	*
Power roller	Multi-pedicle pulley	Steel wheel	D2100	*	*	
		Plastic-coated steel wheel	D2200	*	*	
	O-belt pulley	Indent	D3100	*	*	
		Plastic-coated steel wheel	D3200	*	*	
	Synchronous pulley	Steel wheel	D4100	*	*	
		Plastic-coated steel wheel	D4200	*	*	
	Chain wheel	Steel wheel	D5100		*	
		Plastic-coated steel wheel	D5200		*	
Collection roller	Chain wheel	Steel wheel	J6100		*	
		Plastic-coated steel wheel	J6200		*	
Turning roller	Not have	W1200 Series with Conical Sleeve	ZW1200	*	*	*
	Multi-pedicle pulley	D2200 Series with Conical Sleeve	ZD2200		*	
	Chain wheel	D5200 Series with Conical Sleeve	ZD5200		*	
	Not have	Carbon steel bearing housings manufactured by rolling or turning processes	Z1100	*	*	*
	Multi-pedicle pulley	Carbon steel rolling process / Steel wheels	Z2100		*	
	Chain wheel	Carbon steel rolling process / Steel wheels	Z5100		*	
Active roller			C1000			
Passive roller			C2000			

III. Selection Code

For example: **D2100-A A A-A A A-W500/L 520-Y**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Representative Series

② Representative cylinder dimensions: A=25, B=32, C=38, D=50, E=60, F=76, G=80, H=89

③ Representative tank materials: A = carbon steel, B = stainless steel 304, C = stainless steel 201

④ Surface treatments for the tank body: A = original color; B = galvanized; C = chrome-plated; D = PVC-lined; E = rubber-lined; F = polyurethane-lined.

⑤ Representative shaft diameters: A=6, B=8, C=10, D=12, E=15, F=20, G=25, S=11 hex

⑥ Material and surface treatment of the representative axis: A = original color (unprocessed), B = galvanized, C = chrome-plated

⑦ Installation method of the representative shaft: A = spring-loaded type; B = internal thread; C = flattened by milling

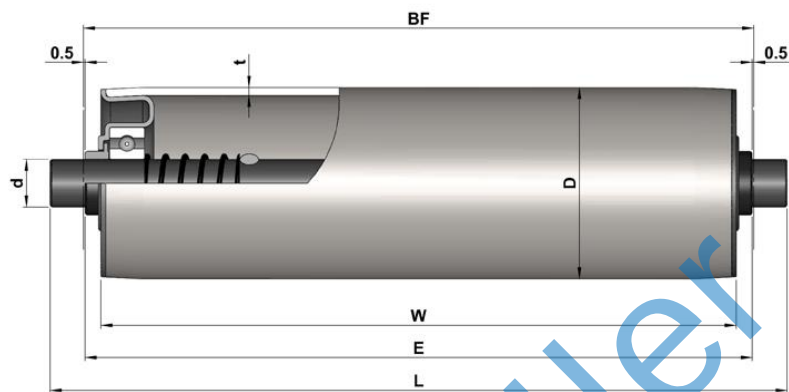
⑧ Represents the effective delivery width (length of the cylinder).

⑨ Representative installation size (shaft length)

⑩ Representing standard and non-standard products: Y = standard, N = non-standard (specify when placing the order)

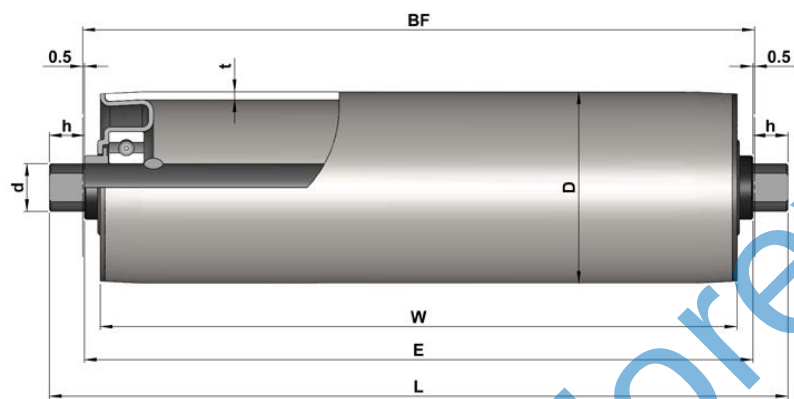
IV. Products

Non-powered roller – W1100



Spring Press-in Type

Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 32*1.2	φ 12	W	W+10	W+9	W+31
φ 38*1.2	φ 12	W	W+10	W+9	W+31
φ 50*1.5	φ 12/ φ 15	W	W+10	W+9	W+31
φ 50*2.0	φ 12/ φ 15	W	W+10	W+9	W+31
φ 60*2.0	φ 12/ φ 15/ φ 20	W	W+10	W+9	W+31
φ 60*3.0	φ 15	W	W+10	W+9	W+31
φ 76*3.0	φ 15/ φ 20	W	W+10	W+9	W+31
φ 76*4.0	φ 20	W	W+11	W+10	W+40
φ 80*3.0	φ 20	W	W+11	W+10	W+40
φ 89*3.0	φ 20	W	W+11	W+10	W+40
φ 89*4.0	φ 20	W	W+11	W+10	W+40

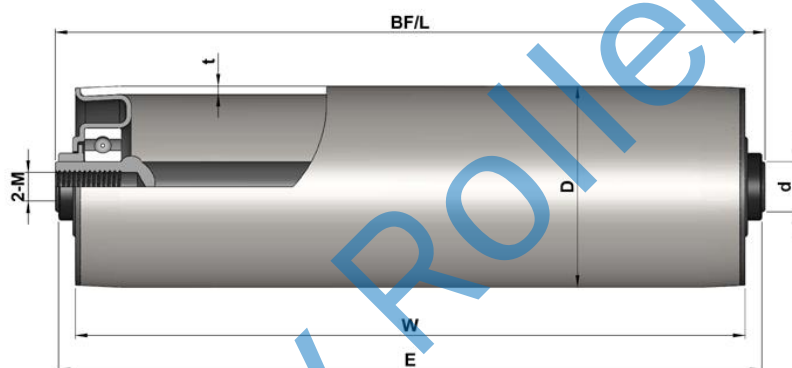


Milling flat

Diameter of axle	Flattening ratio (b/h)
φ 12	10*11
φ 15	12*11
φ 20	16*15
φ 25	22*15

Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 32*1.2	φ 12	W	W+10	W+9	W+31
φ 38*1.2	φ 12	W	W+10	W+9	W+31
φ 50*1.5	φ 12	W	W+9	W+8	W+30
φ 50*1.5	φ 15	W	W+11	W+10	W+32
φ 50*2.0	φ 12	W	W+9	W+8	W+30
φ 50*2.0	φ 15	W	W+11	W+10	W+32
φ 60*2.0	φ 12	W	W+11	W+10	W+32
φ 60*2.0	φ 15	W	W+11	W+10	W+32

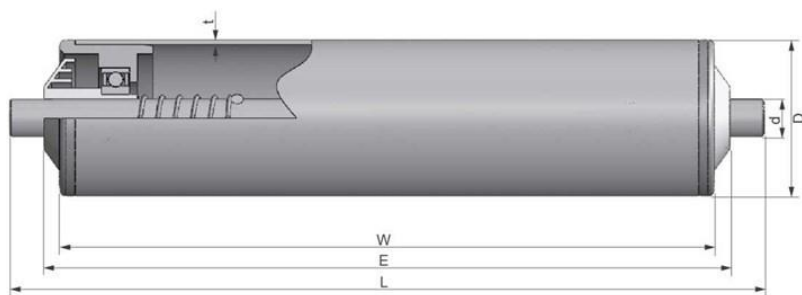
$\phi 60 \times 2.0$	$\phi 20$	W	W+11	W+10	W+40
$\phi 60 \times 3.0$	$\phi 15$	W	W+11	W+10	W+32
$\phi 76 \times 3.0$	$\phi 15$	W	W+11	W+10	W+32
$\phi 76 \times 3.0$	$\phi 20$	W	W+11	W+10	W+40
$\phi 76 \times 4.0$	$\phi 20$	W	W+11	W+10	W+40
$\phi 80 \times 3.0$	$\phi 20$	W	W+11	W+10	W+40
$\phi 89 \times 3.0$	$\phi 20$	W	W+11	W+10	W+40
$\phi 89 \times 3.0$	$\phi 20$	W	W+11	W+10	W+40
$\phi 89 \times 3.0$	$\phi 25$	W	W+11	W+10	W+40



internal thread	
Diameter of axle	Internal thread
$\phi 12$	M8*20
$\phi 15$	M10*20
$\phi 20$	M12*25
$\phi 25$	M12*25

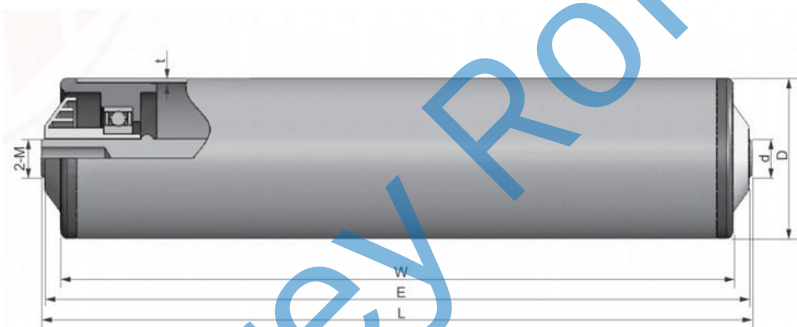
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
$\phi 32 \times 1.2$	$\phi 12$	W	W+10	W+9	W+10
$\phi 38 \times 1.2$	$\phi 12$	W	W+10	W+9	W+10
$\phi 50 \times 1.5$	$\phi 12$	W	W+10	W+9	W+10
$\phi 50 \times 1.5$	$\phi 15$	W	W+11	W+10	W+11
$\phi 50 \times 2.0$	$\phi 12$	W	W+9	W+8	W+9
$\phi 50 \times 2.0$	$\phi 15$	W	W+11	W+10	W+11
$\phi 60 \times 2.0$	$\phi 12$	W	W+11	W+10	W+11
$\phi 60 \times 2.0$	$\phi 15$	W	W+11	W+10	W+11
$\phi 60 \times 2.0$	$\phi 20$	W	W+11	W+10	W+11
$\phi 60 \times 3.0$	$\phi 15$	W	W+11	W+10	W+11
$\phi 76 \times 3.0$	$\phi 15$	W	W+11	W+10	W+11
$\phi 76 \times 3.0$	$\phi 20$	W	W+11	W+10	W+11
$\phi 76 \times 4.0$	$\phi 20$	W	W+11	W+10	W+11
$\phi 80 \times 3.0$	$\phi 20$	W	W+11	W+10	W+11
$\phi 89 \times 3.0$	$\phi 20$	W	W+11	W+10	W+11
$\phi 89 \times 3.0$	$\phi 25$	W	W+11	W+10	W+11
$\phi 89 \times 4.0$	$\phi 20$	W	W+11	W+10	W+11

Non-powered roller – W1200



Spring Press-in Type

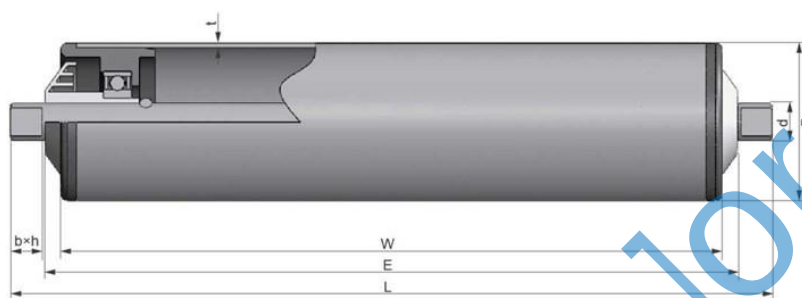
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 38*1.2	φ 8/ φ 10/ φ 12/11hex	W	W+10	W+9	W+31
φ 50*1.5	φ 8/ φ 10/ φ 12/11hex	W	W+10	W+9	W+31
φ 50*2.0	φ 10/ φ 12/11hex	W	W+10	W+9	W+31
φ 60*2.0	φ 10/ φ 12/11hex	W	W+10	W+9	W+31



Internal Thread

Diameter of axle	Internal thread
φ 12	M8*20
φ 15	M10*20
φ 20	M12*25

Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 38*1.2	φ 12	W	W+10	W+9	W+10
φ 50*1.5	φ 12/ φ 15	W	W+10	W+9	W+10
φ 50*2.0	φ 12/ φ 15	W	W+10	W+9	W+10
φ 60*2.0	φ 12/ φ 15	W	W+10	W+9	W+10
φ 76*3.0	φ 20	W	W+10	W+9	W+10
φ 80*3.0	φ 20	W	W+10	W+9	W+10

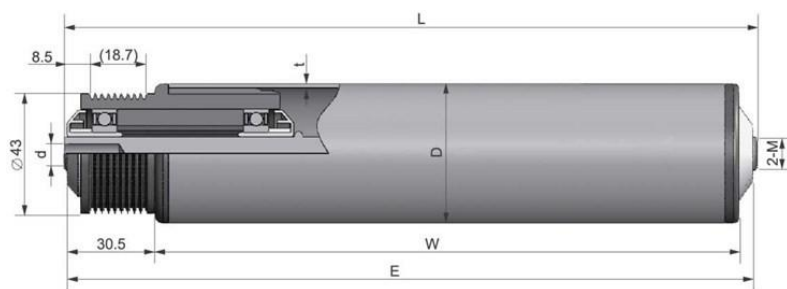


Milling Flat

Diameter of axle	Flattening ratio (b/h)
φ 12	10*11
φ 15	12*11
φ 20	16*15

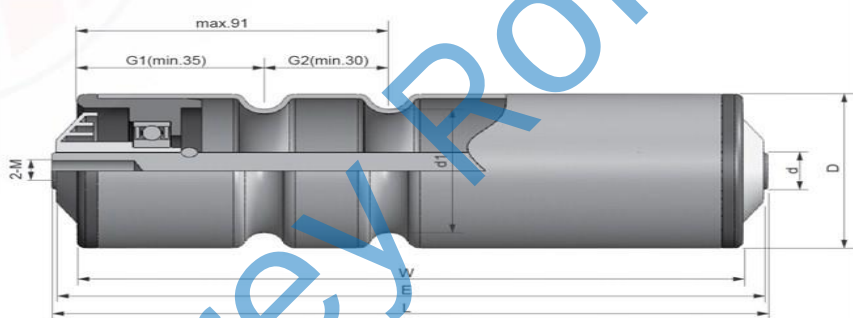
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 38*1.2	φ 12	W	W+10	W+9	W+31
φ 50*1.5	φ 12/ φ 15	W	W+10	W+9	W+31
φ 50*2.0	φ 12/ φ 15	W	W+10	W+9	W+31
φ 60*2.0	φ 12/ φ 15	W	W+10	W+9	W+31
φ 76*3.0	φ 20	W	W+10	W+9	W+31
φ 80*3.0	φ 20	W	W+10	W+9	W+31

Power Roll – D2100/D2200



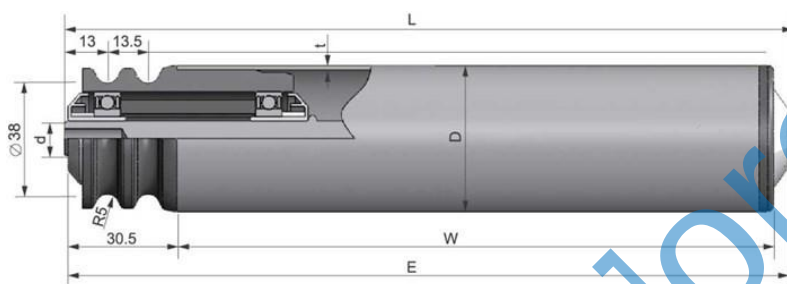
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5	φ 12/ φ 15	W	W+36.5	W+35.5	W+36.5
φ 50*2.0	φ 12/ φ 15	W	W+36.5	W+35.5	W+36.5

Power Roller-D3100



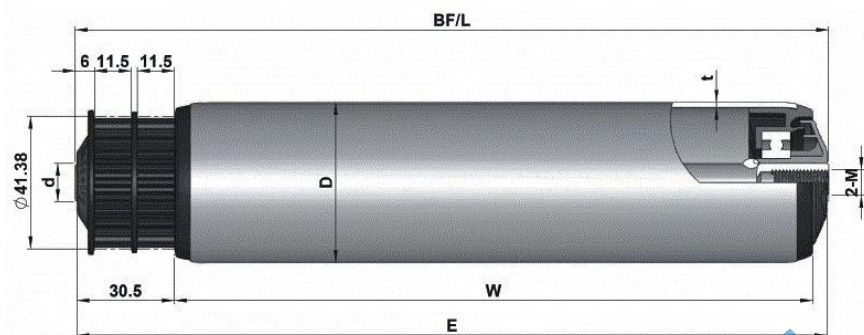
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 38*1.2	φ 12	W	W+10	W+9	W+10
φ 50*1.5	φ 12/ φ 15	W	W+10	W+9	W+10
φ 50*2.0	φ 12/ φ 15	W	W+10	W+9	W+10
φ 60*2.0	φ 12/ φ 15/ φ 20	W	W+10	W+9	W+10

Power Roller – D3200



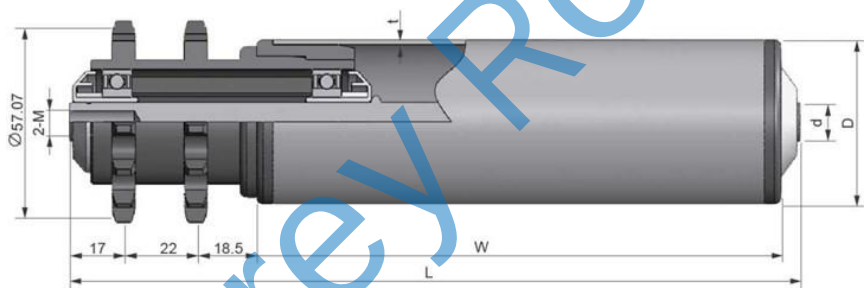
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5	φ 12/ φ 15	W	W+36.5	W+35.5	W+36.5

Power Roller – D4200



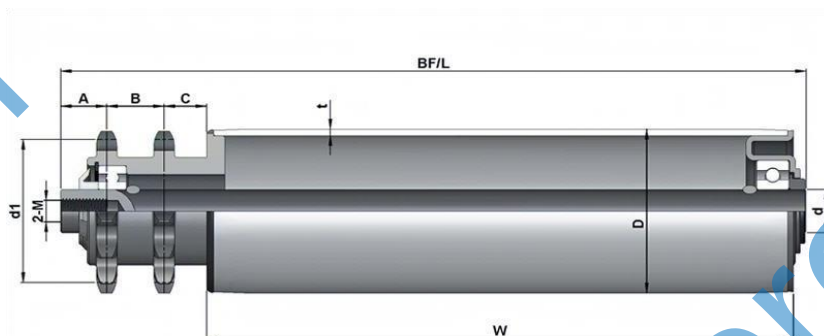
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5	φ 12/ φ 15	W	W+36.5	W+35.5	W+36.5

Power Roller-D5200



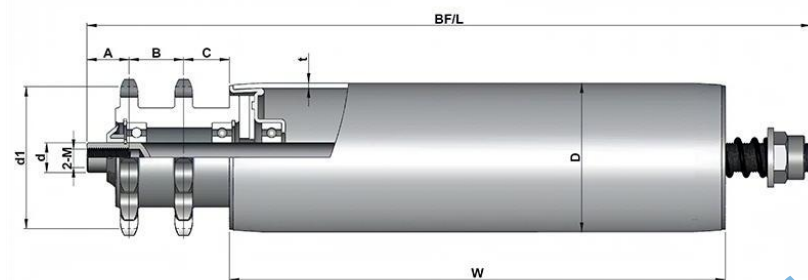
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Axial Length (L)	Chainring Model
φ 50*1.5	φ 12/ φ 15	W	W+63	W+63	08B11T
φ 60*2.0	φ 12/ φ 15/ φ 20	W	W+63	W+63	08B14T

Power Roller-D5100



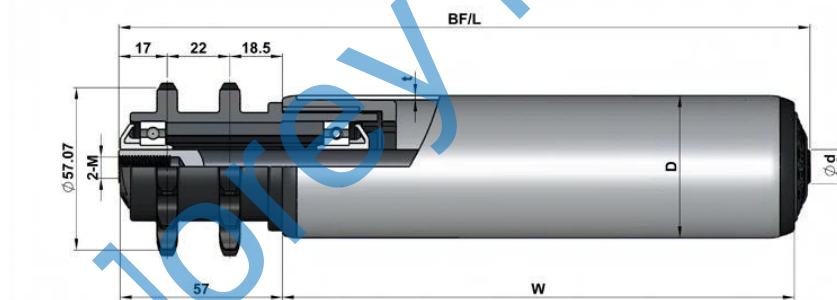
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Axial Length (L)	Chainring Model
φ 50*1.5	φ 12/ φ 15	W	W+62	W+62	08B11T
φ 50*2.0	φ 12/ φ 15	W	W+63	W+63	08B11T
φ 60*2.0	φ 12/ φ 15	W	W+63	W+63	08B14T
φ 60*3.0	φ 15	W	W+63	W+63	08B14T
Φ 76*3.0/4.0	φ 15/ φ 20	W	W+69	W+69	08B14T/10A13T
Φ 80*3.0	φ 20	W	W+69	W+69	10B15T
Φ 89*3.0/4.0	φ 20	W	W+69	W+69	10B15T

Adjustable Roll Pressing Roller-D6100



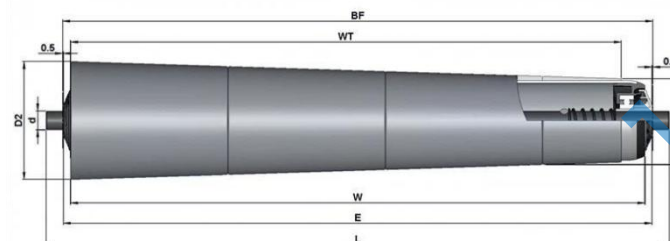
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Axial Length (L)	Chainring Model
φ 50*1.5	φ 12	W	W+92	W+92	08B11T
φ 60*2.0	φ 15	W	W+92	W+92	08B14T
Φ 76*3.0	φ 20	W	W+103	W+103	10A13T

Stacking roller-D6200



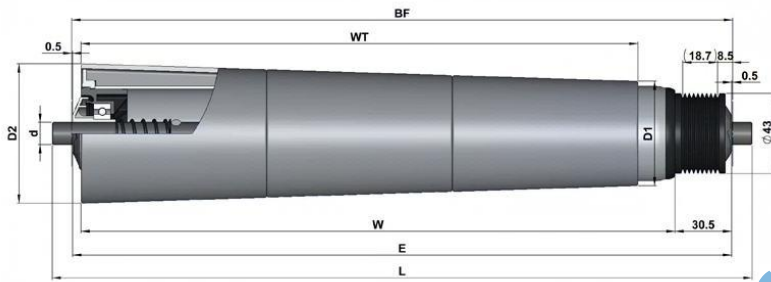
Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Axial Length (L)	Chainring Model
φ 50*1.5	φ 12/ φ 15	W	W+63	W+63	08B14T
φ 60*2.0	φ 12/ φ 15	W	W+63	W+63	08B14T

Turning Roll –ZW1200

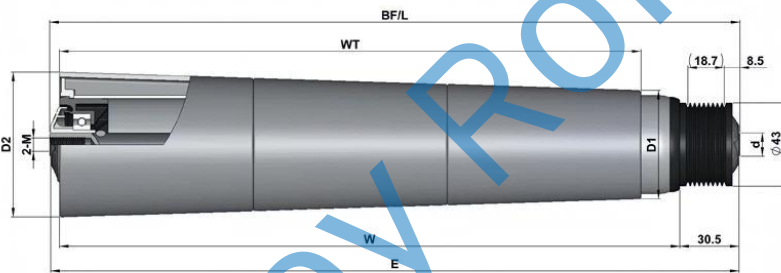


Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5	φ 12/ φ 15	W	W+10	W+9	W+10
φ 50*2.0	φ 12/ φ 15	W	W+10	W+9	W+10

Turning Roll – ZD2200/Z2100

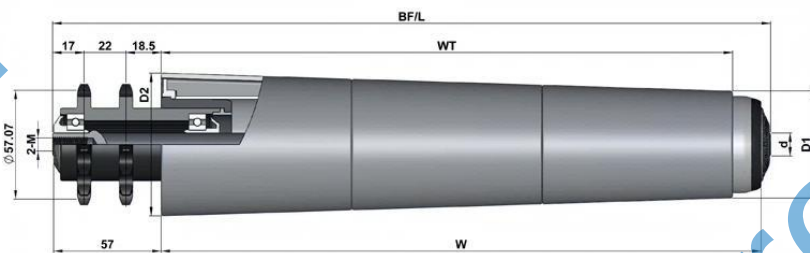


Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5	φ 12	W	W+36	W+35	W+57



Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5	φ 15	W	W+36	W+35	W+36

Turning Roll – ZD3200

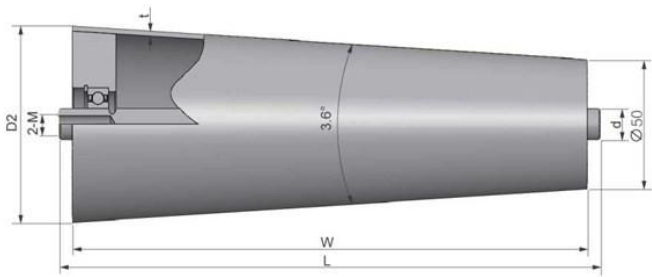


Standard Chainring Model: 08B14T

Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5	Φ 12/ φ 15	W	W+63	W+61	W+63

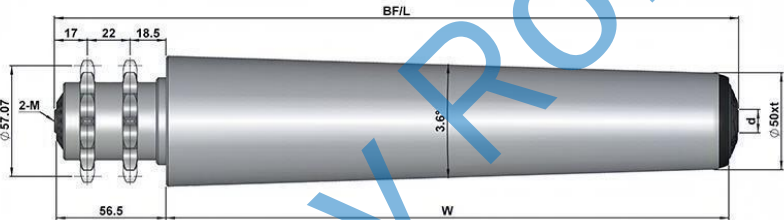
Note: The taper angle is 3.6 °, allowing single-row sprockets.

Turning Roll-Z1100



Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5/2.0	Φ 12/ φ 15	W	W+10	W+9	W+10

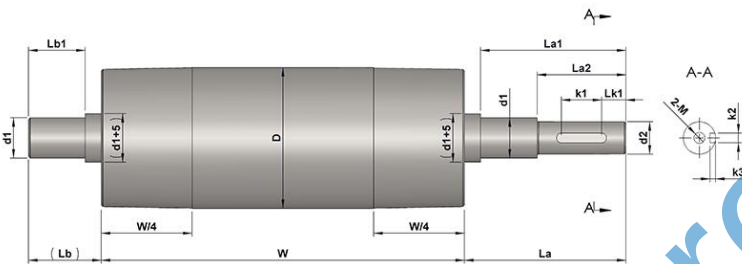
Turning Roll-Z5100



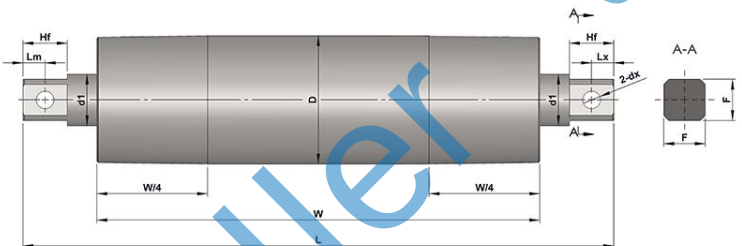
Standard Chainring Model:08B14T

Pipe diameter and wall thickness (D × t)	Diameter of axle (d)	Roll length (W)	Rack width (BF)	Positioning Step (E)	Axial Length (L)
φ 50*1.5/2.0	Φ 12/ φ 15	W	W+63	W+61	W+63

The main roller C1000 is customized according to the drawings.

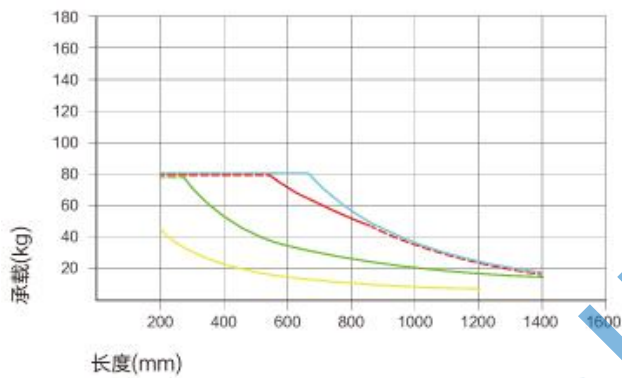


The driven roller C2000 is customized according to the diagram.

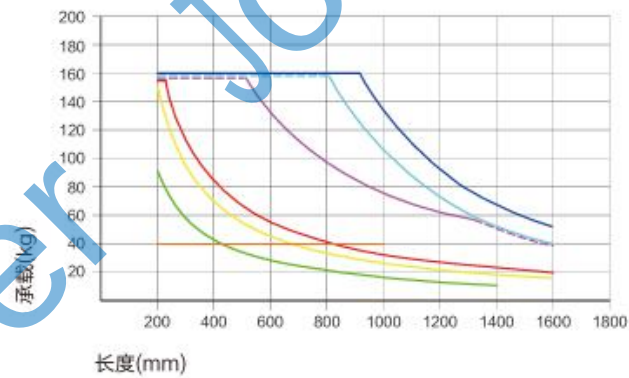


V. Carrying Capacity

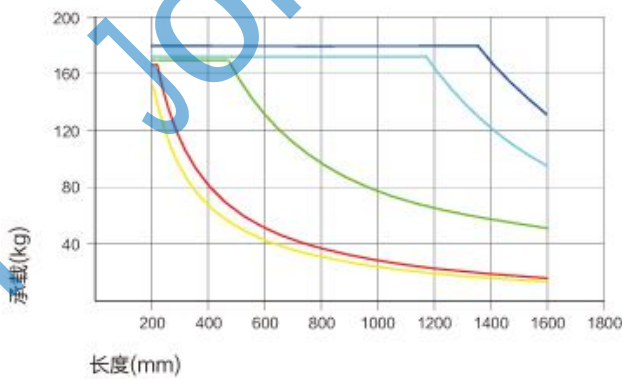
Plastic-Steel Bearing Housing Series



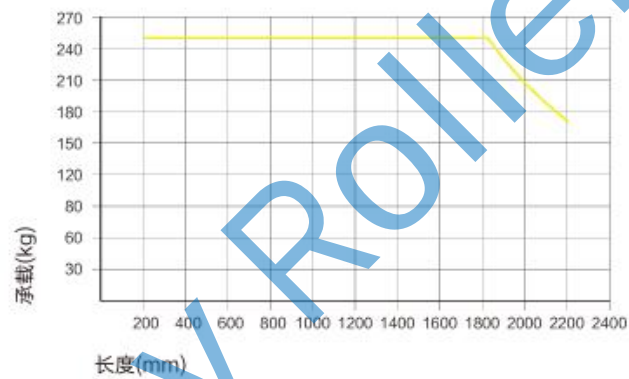
- 钢管 $\Phi 38 \times 1.2$, 轴芯 $\Phi 14$, 内螺纹
- 钢管 $\Phi 38 \times 1.2$, 轴芯 $\Phi 12$, 弹簧压入式
- 钢管 $\Phi 38 \times 1.2$, 轴芯 $\Phi 10$, 弹簧压入式
- 钢管 $\Phi 38 \times 1.2$, 轴芯 $\Phi 8$, 弹簧压入式



- 钢管 $\Phi 50 \times 2.0$, 轴芯 $\Phi 14/15$, 内螺纹
- 钢管 $\Phi 50 \times 1.5$, 轴芯 $\Phi 14/15$, 内螺纹
- 钢管 $\Phi 50 \times 1.5$, 轴芯 $\Phi 15$, 铣扁
- 钢管 $\Phi 50 \times 1.5$, 轴芯 $\Phi 12$, 弹簧压入式
- 钢管 $\Phi 50 \times 1.5$, 轴芯 11hex, 弹簧压入式
- 钢管 $\Phi 50 \times 1.5$, 轴芯 $\Phi 10$, 弹簧压入式
- 钢管 $\Phi 50 \times 1.5$, 轴芯 11hex, 锥形塑钢轴套

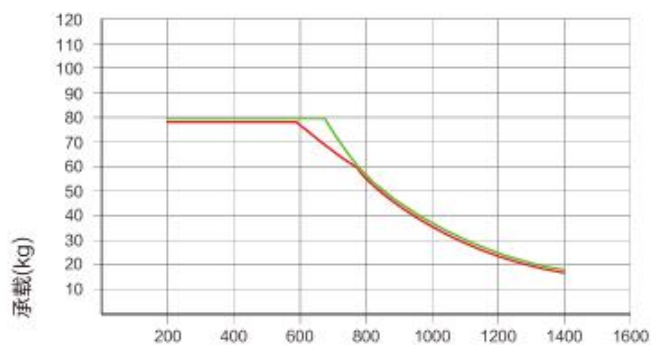


- 钢管 $\Phi 60 \times 3.0$, 轴芯 $\Phi 17$, 内螺纹
- 钢管 $\Phi 60 \times 2.0$, 轴芯 $\Phi 14/15$, 内螺纹
- 钢管 $\Phi 60 \times 2.0$, 轴芯 $\Phi 15$, 铣扁
- 钢管 $\Phi 60 \times 2.0$, 轴芯 $\Phi 12$, 弹簧压入式
- 钢管 $\Phi 60 \times 2.0$, 轴芯 11hex, 弹簧压入式



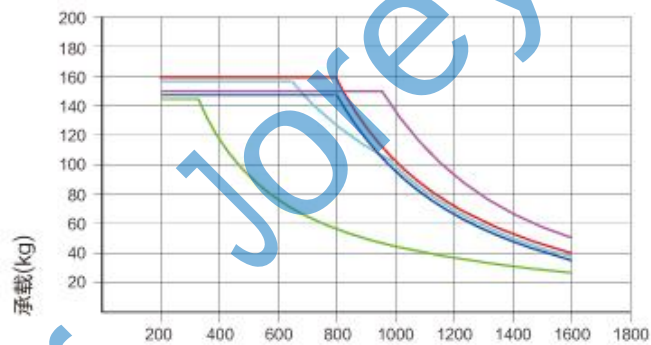
- 钢管 $\Phi 80 \times 3.0$, 轴芯 $\Phi 20$, 内螺纹
- 钢管 $\Phi 76 \times 3.0$, 轴芯 $\Phi 20$, 内螺纹

Steel Bearing Housing Series



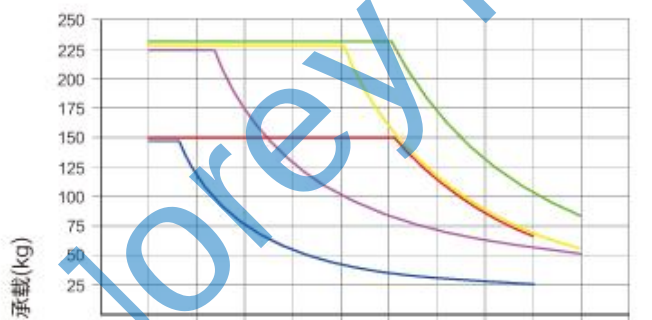
长度(mm)

- 钢管 Φ38x1.2, 轴芯 Φ12, 内螺纹
- 钢管 Φ38x1.2, 轴芯 Φ12, 弹簧压入式



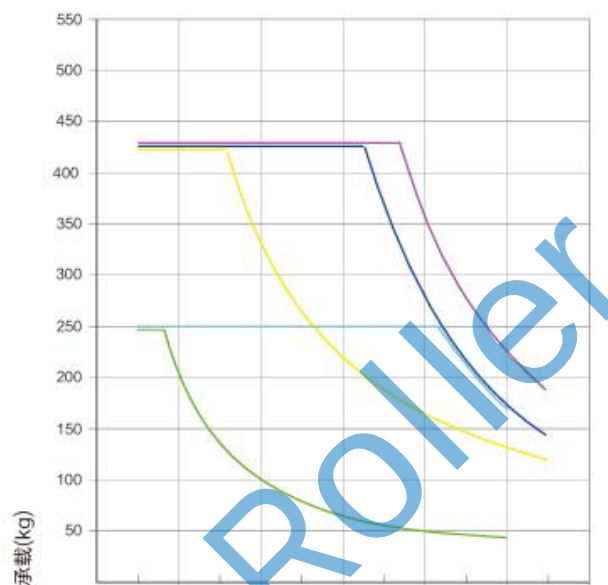
长度(mm)

- 钢管 Φ50x1.5, 轴芯 Φ15, 内螺纹
- 钢管 Φ50x1.5, 轴芯 Φ15, 弹簧压入式
- 钢管 Φ50x2.0, 轴芯 Φ12, 内螺纹
- 钢管 Φ50x1.5, 轴芯 Φ12, 内螺纹
- 钢管 Φ50x1.5/2.0, 轴芯 Φ12, 弹簧压入式



长度(mm)

- 钢管 Φ60x3.0, 轴芯 Φ15, 内螺纹
- 钢管 Φ60x2.0, 轴芯 Φ15, 内螺纹
- 钢管 Φ60x3.0, 轴芯 Φ15, 弹簧压入式
- 钢管 Φ60x2.0, 轴芯 Φ12, 内螺纹
- 钢管 Φ60x2.0, 轴芯 Φ12, 弹簧压入式



长度(mm)

- 钢管 Φ76x4.0, 轴芯 Φ20, 内螺纹
- 钢管 Φ76x3.0, 轴芯 Φ20, 内螺纹
- 钢管 Φ76x3.0/4.0, 轴芯 Φ20, 弹簧压入式
- 钢管 Φ76x3.0, 轴芯 Φ15, 内螺纹
- 钢管 Φ76x3.0, 轴芯 Φ15, 弹簧压入式

Create value for customers



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