

All CONIDRIVE® N10 belt and pulley systems should be designed incorporating the design data shown below to ensure reliability and long-life operation.



CONIDRIVE® N10 belts are available in Endless Style and as Belt Stock.

Rotational Belt Drives

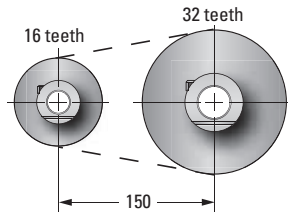
The power transmitting capability is dependent on various parameters; namely torque to be transmitted, the rpm of the smallest pulley (driver), the number of teeth on the driver & driven pulleys and the number of teeth on the belt. However, in all cases, the allowable belt tension values shown in **Tables 1, 2 and 4** must not be exceeded. It is advisable to remain below these values if shock loads are anticipated.

Horsepower Calculations

H.P. to be transmitted - **3/4**
 rpm of small pulley (driver) - **1750**
 Belt style - **2 row**
 Small pulley Dia. (mm) - **49.49 (16 teeth)**
 Large pulley Dia. (mm) - **100.42 (32 teeth)**
 Center Distance - **150 mm**

Reciprocating Belt Drives

Reciprocating belt drives employing belt stock materials can be selected based on an allowable static load of 8 lbs. per engaging tooth and belt load from static and acceleration forces not to exceed values indicated in **Table 4**.



• Step 1 - Determine no. of teeth in engagement at small pulley

N = No. of teeth in engagement
n = No. of cavities per row in small pulley
D = Diameter of large pulley (mm)
d = Diameter of small pulley (mm)
C.D. = Center distance (mm)

$$N = \frac{n}{360} \left[180 - \frac{60(D-d)}{C.D.} \right]$$

$$N = \frac{20}{360} \left[180 - \frac{60(100.42 - 49.49)}{150} \right]$$

N = 8.868

• Step 2 - Calculating horsepower using graphs provided (see next page)

By interpolating the maximum allowable force in **Table 1**
TANGENTIAL FORCE = 400 N

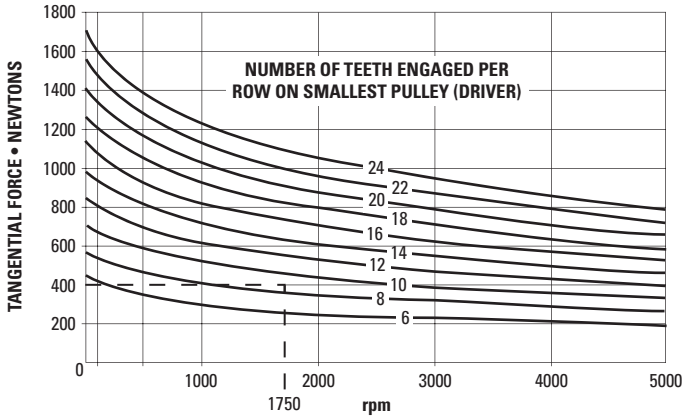
H.P. = $\frac{\text{TANGENTIAL FORCE} \times \text{PULLEY DIA.} \times \text{rpm}}{14.34 \times 10^6}$

H.P. = $\frac{400 \times 49.49 \times 1750}{14.34 \times 10^6}$

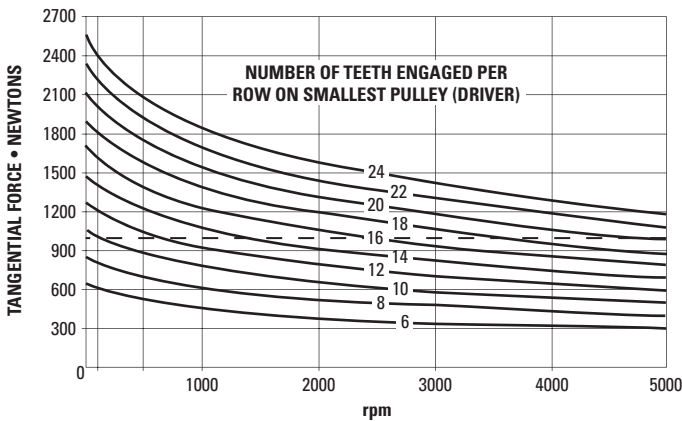
H.P. = 2.41 Therefore, belt/pulley selection can transmit **3/4 H.P.** with a theoretical safety factor of **3.21**



• **Table 1 - TANGENTIAL FORCE VS. rpm - for 2-Row Belt & Pulley Systems**



• **Table 2 - TANGENTIAL FORCE VS. rpm - for 3-Row Belt & Pulley Systems**



• **Table 3**

Minimum no. of pulley teeth per row - 16
Minimum inner idler diameter - 40 mm
Minimum outer idler diameter - 50 mm

NOTE: Inner idlers must have pockets to receive belt projections.

• **Table 4**

Allowable belt tension (N)			
Belt Width (mm)	10	20	30
Belt Stock	650	1300	1950
Endless Belts	-	650	975

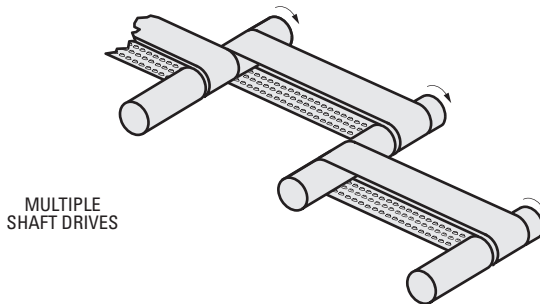
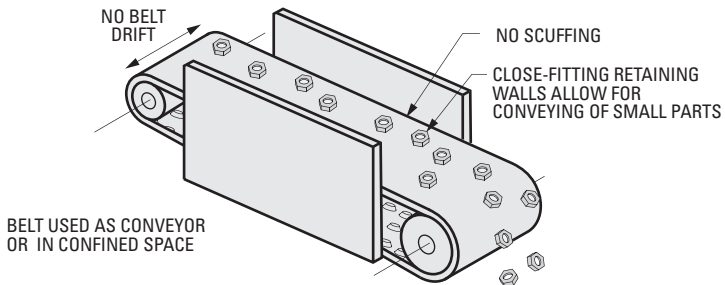
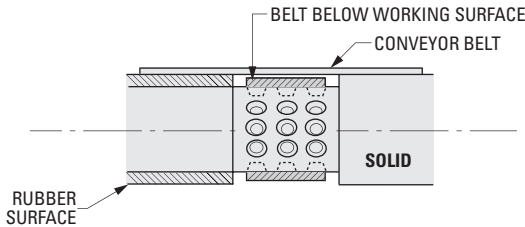
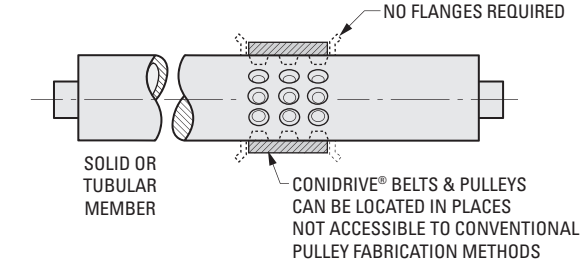
Can't find the sizes you need? Other sizes available on special order.

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Conidrive® Systems have distinct advantages over present synchronous drives.

Shown below are some examples of applications with solutions unique to Conidrive® Components.



Conidrive® pulleys are manufactured by SDP as standard catalog items and as custom parts to your specifications.

10 mm PITCH
SELF-GUIDING
CONTINUOUS ROLLING ACTION
LOW NOISE & VIBRATION

› **MATERIAL:**
 Polyurethane Reinforced with Steel Tensile Cords

› **OPERATING TEMPERATURE:**
 -30°C to +80°C

› **FEATURES:**
Self-guiding system: no side flanges needed on pulleys
Nondirectional: same meshing performance in both directions of belt travel
Polygon-free: smooth rolling around pulleys thanks to contact with flat belt area
Noise-minimized & low-vibration: continuous rolling, smooth meshing of conical projections into recesses
Homogenous distribution of forces in the belt: no force components acting laterally thanks to symmetrical cone geometry and balanced tension member arrangement (S/Z winding)

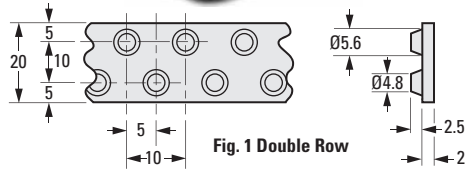


Fig. 1 Double Row

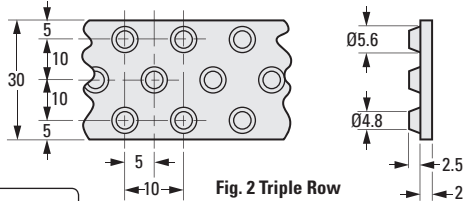


Fig. 2 Triple Row

METRIC COMPONENT		Length mm
Catalog Number		
Fig. 1 Double Row	Fig. 2 Triple Row	
A 6Z13MD0500	A 6Z13MT0500	500
A 6Z13MD0600	A 6Z13MT0600	600
A 6Z13MD0700	A 6Z13MT0700	700
A 6Z13MD0800	A 6Z13MT0800	800
A 6Z13MD0900	A 6Z13MT0900	900
A 6Z13MD1000	A 6Z13MT1000	1000

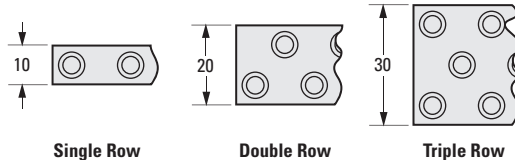
TIMING BELT STOCK - 10 mm Pitch

› **MATERIAL:**
 Polyurethane Reinforced with Steel Tensile Cords

› **OPERATING TEMPERATURE:**
 -30°C to +80°C

› **APPLICATIONS:**
 Metering, positioning, conveying and oscillating drives where belt lengths required are longer than standard endless belts.

Priced per Meter



METRIC COMPONENT			
Catalog Number	No. of Rows	Allowable Static Tensile Load N	Max. Available Length m
A 6Z13MCS	Single	650	50
A 6Z13MCD	Double	1300	50
A 6Z13MCT	Triple	1950	50



NO FLANGE
FAIRLOC® HUB
NONCHORDAL ACTION

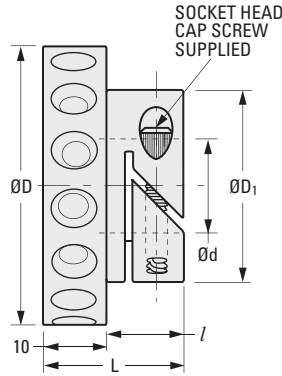


➤ **MATERIAL:**
Aluminum Alloy

➤ **FINISH:**
Clear Anodized

➤ **FEATURES:**
Self-Guiding
No Flanges Required
No Chordal Effect
Smooth Running
Fairloc® Hub
Nonmarring of Shaft

➤ **SPECIFICATION:**
Other sizes available
on special order.



Single Row

METRIC COMPONENT

Catalog Number	No. of Cavities Per Row	D O.D.	d Bore Dia. +0.025 0	L Length ± 0.4	D ₁ Hub Dia.	l Hub Proj.
A 6A14M16S10	16	49.49	10	23	32	13
A 6A14M16S12	16	49.49	12	23	32	13
A 6A14M20S10	20	62.22	10	23	32	13
A 6A14M20S12	20	62.22	12	23	32	13
A 6A14M24S10	24	74.95	10	23	32	13
A 6A14M24S12	24	74.95	12	23	32	13
A 6A14M28S10	28	87.69	10	23	32	13
A 6A14M28S12	28	87.69	12	23	32	13
A 6A14M32S10	32	100.42	10	23	32	13
A 6A14M32S12	32	100.42	12	23	32	13
A 6A14M36S10	36	113.15	10	23	32	13
A 6A14M36S12	36	113.15	12	23	32	13
A 6A14M40S10	40	125.89	10	23	32	13
A 6A14M40S12	40	125.89	12	28.5	38	18.5
A 6A14M44S12	44	138.62	12	28.5	38	18.5
A 6A14M44S16	44	138.62	16	28.5	38	18.5
A 6A14M48S12	48	151.35	12	28.5	38	18.5
A 6A14M48S16	48	151.35	16	28.5	38	18.5

NO FLANGES
FAIRLOC® HUB
NONCHORDAL ACTION

PHONE: 516.328.3300 • FAX: 516.326.8827 • WWW.SDP-SI.COM

➤ **MATERIAL:**
Aluminum Alloy

➤ **FINISH:**
Clear Anodized

➤ **FEATURES:**
Self-Guiding
No Flanges Required
No Chordal Effect
Smooth Running
Fairloc® Hub
Nonmarring of Shaft

➤ **SPECIFICATION:**
Other sizes available
on special order.

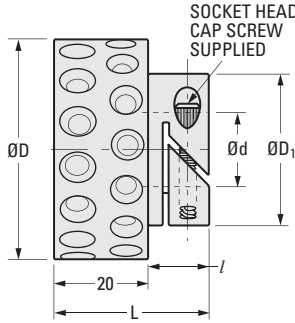


Fig. 1
Double Row

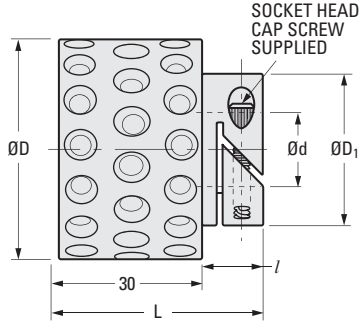


Fig. 2
Triple Row

METRIC COMPONENT

Catalog Number	No. of Cavities Per Row	D O.D.	d Bore Dia. +0.025 0	L Length	D ₁ Hub Dia.	l Hub Proj.
Fig. 1 Double Row						
A 6A14M16D16	16	49.49	16	38.5	38	18.5
A 6A14M16D20	16	49.49	20	42	49.5	22
A 6A14M24D16	24	74.95	16	38.5	38	18.5
A 6A14M24D20	24	74.95	20	42	49.5	22
A 6A14M32D16	32	100.42	16	38.5	38	18.5
A 6A14M32D20	32	100.42	20	42	49.5	22
A 6A14M48D16	48	151.35	16	38.5	38	18.5
A 6A14M48D20	48	151.35	20	42	49.5	22
Fig. 2 Triple Row						
A 6A14M16T16	16	49.49	16	48.5	38	18.5
A 6A14M16T20	16	49.49	20	52	49.5	22
A 6A14M24T16	24	74.95	16	48.5	38	18.5
A 6A14M24T20	24	74.95	20	52	49.5	22
A 6A14M32T16	32	100.42	16	48.5	38	18.5
A 6A14M32T20	32	100.42	20	52	49.5	22
A 6A14M48T16	48	151.35	16	48.5	38	18.5
A 6A14M48T20	48	151.35	20	52	49.5	22

USED IN LINEAR DRIVES

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> MATERIAL:

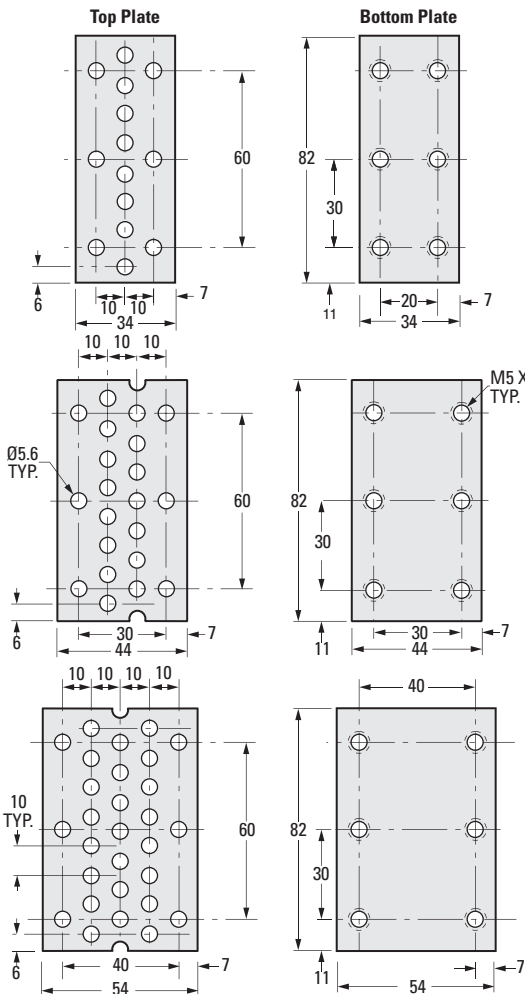
Aluminum Alloy - 3.18 mm Thick



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> SPECIFICATION:

* Supplied with socket head cap screws and internal lock washers.



**A16A13M100*
Single Row**



**A16A13M200*
Double Row**



**A16A13M300*
Triple Row**