

Stand-alone Belt-type Stepless Speed Changer

PF

Standard applied motor output	0.4 kW to 3.7 kW (4-pole)
Speed change ratio	1:2.4
External pulley diameter	155 mm to 250 mm

Outstanding Belt Life Span



- Using a Wide Speed Changer Belt
- Open on Both Ends
- Easy Mounting
- The Belt Travel Line Is Always Maintained Constant so the Belt Life Span Is Outstanding.
- Both the Speed Changer and Belt Are Spaciously Designed to Achieve Superior Durability.

Specifications

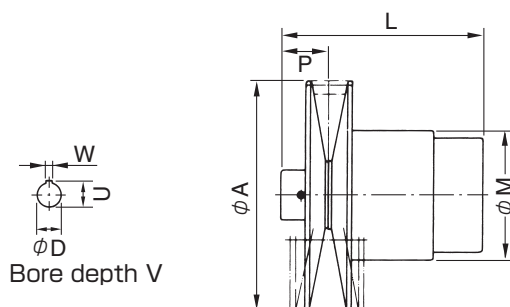
Model	Applied motor [kW] (4P)	Speed change ratio	Belt	Transmission capacity (kW)			Mass [kg]
				High speed rotation	Intermediate speed rotation	Low speed rotation	
PF-155-14N	0.4	1 : 2.4	1422V	1.6	1.1	0.4	4
PF-155-19N	0.75						
PF-185-19N	0.75	1 : 2.4	1922V	3.6	2.2	0.5	6
PF-185-24N	1.5						
PF-216-24N	1.5	1 : 2.4	2322V	5.2	3.8	1.1	10
PF-216-28N	2.2						
PF-250-28N	2.2	1 : 2.4	2926V	8.0	6.2	2.0	19
PF-250-28N	3.7						

Driven Side Rotation Speed (when 1430 min⁻¹ (50 Hz) or 1720 min⁻¹ (60 Hz) are input with 4-pole motor), Belt Number and Distance between Shafts

Model	Driven side external pulley diameter	Driven side rotation speed [min ⁻¹]	Belt and distance between shafts [mm] (when C = PF model max. P.D.)					
PF-155	6 in.	600 ~ 1440	Belt number	1422V360S	1422V400S	1422V420S	1422V466S	1422V480
		720 ~ 1728	Distance between shafts [mm]	224	276	301	355	376
	8 in.	445 ~ 1060	Belt number	1422V400S	1422V420S	1422V466S	1422V480	1422V540
		535 ~ 1290	Distance between shafts [mm]	234	260	312	334	413
PF-185	8 in.	520 ~ 1285	Belt number	1922V403S	1922V417S	1922V426S	1922V443S	1922V454S
		625 ~ 1545	Distance between shafts [mm]	220	234	245	267	280
	10 in.	415 ~ 1020	Belt number	1922V454S	1922V484S	1922V526S	1922V544	1922V604
		500 ~ 1230	Distance between shafts [mm]	238	277	329	352	430
PF-216	10 in.	495 ~ 1200	Belt number	2322V481	2322V521	2322V541	2322V601S	2322V621
		600 ~ 1440	Distance between shafts [mm]	254	299	329	406	429
	12 in.	415 ~ 1000	Belt number	2322V541	2322V601S	2322V621	2322V661	2322V681
		500 ~ 1205	Distance between shafts [mm]	287	364	387	444	462
PF-250	12 in.	485 ~ 1165	Belt number	2926V574	2926V586	2926V606S	2926V616	2926V636
		580 ~ 1400	Distance between shafts [mm]	303	318	344	366	381
	14 in.	410 ~ 990	Belt number	2926V616	2926V636	2926V646	2926V666	2926V686
		495 ~ 1185	Distance between shafts [mm]	321	336	350	375	401

* For the driven side pulley, be sure to use one with the same diameter or larger.

Dimensions



Bore depth V

Model	A	P	L	M	D	U	W	V	Max. P.D.	Min. P.D.	Movement distance
PF-155-14N	155	29	140	94	14	16	5	30	150	62	69
PF-155-19N					19	21.5	6	40			
PF-185-19N	185	38	163	104	19	21.5	6	40	178	74	82
PF-185-24N					24	27	8	50			
PF-216-24N	216	51	203	127	24	27	8	50	208	86	96
PF-216-28N					28	31	8	60			
PF-250-28N	250	54	252	154	28	31	8	60	241	100	111
PF-250-28N					28	31	8	60			

Unit [mm]

* Movement distance refers to a distance to move the motor for changing speed.

How to Place an Order

PF-155-14N

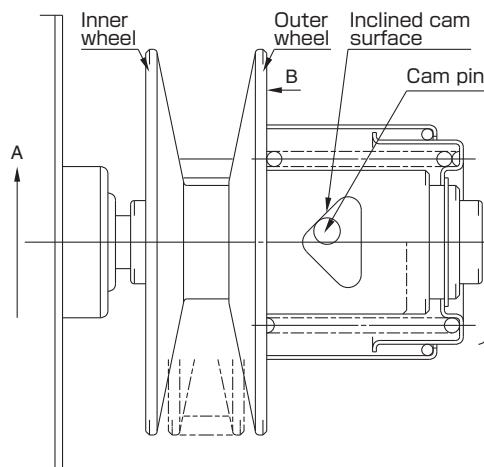
Size _____ Nominal hole diameter _____

Cam mechanism

The outer wheel (moving wheel) of the speed change pulley is pushed by a spring. However, if the load changes, the tension of the speed changer belt changes, so the spring is pushed back and the belt moves to the inside, resulting in non-uniform rotation. The PF model has a cam mechanism to prevent such non-uniform rotation.

As shown in the figure at right, when the motor shaft rotates in the direction of arrow A, the cam pin attached to the main body rotates the outer wheel through the inclined surface of the cam. Accordingly, a force indicated by arrow B increases in proportion to an increase in the load applied to the speed changer belt and pushes the speed changer belt out as shown by the virtual line and increases the speed.

When a load is not applied, the speed changer belt is loose and does not apply excessive force to the bearing or other parts. When a load is applied, the speed changer belt becomes moderately tight and the speed is increased to prevent a slip on the pulley and compensates for a decrease in the rotation speed of the motor. Thus, the rotation of the driven shaft can be maintained constant. This cam mechanism achieves ideal rotational transmission of the speed change pulley as described. However, in instances where drive is intermittent or goes between normal and reverse, the inclined cam surface and the cam pin hit against each other and may result in breakage.



Driven Side Pulley

(V-pulley for a wide speed changer belt)

The cross-sectional shape of the wide speed changer belt is different from that of the standard V-belt. So a commercially available V-pulley cannot be used as is. To use a V-pulley, purchase a JIS standard multi V-pulley and modify it to adjust the V-groove shape to the shape of wide speed changer belt.

Commercially available V-pulleys	Belt size
C type 1 belt	1422V
A type 2 belts	1922V
B type 2 belts	2322V
C type 2 belts	2926V
D type 4 belts	4430V

Belt size	1422V	1922V	2322V	2926V	4430V	Surface roughness
Commercially available V-pulleys	C type 1 belt	A type 2 belts	B type 2 belts	C type 2 belts	D type 4 belts	
Machining drawing						

* For the driven side pulley, purchase a commercially available V-pulley and modify it. The same applies for the driven side pulley of the PK model.

COUPLINGS

ETP BUSHINGS

ELECTROMAGNETIC CLUTCHES & BRAKES

SPEED CHANGERS & REDUCERS

INVERTERS

LINEAR SHAFT DRIVES

TORQUE LIMITERS

ROSTA

SERIES

HOLLOW SHAFT / SOLID SHAFT SPEED CHANGERS AND REDUCERS

BELT-TYPE STEPLESS SPEED CHANGER UNITS

STAND-ALONE BELT-TYPE STEPLESS SPEED CHANGERS

ZERO-MAX (STEPLESS SPEED CHANGERS)

DC MOTORS

ROTATION SPEED INDICATORS

MODELS

- P
- AP
- PL
- PK
- PF
- R/RK/RH
- L
- U
- T