

Procon
Trommelmotoren

Technical data

Drum Motor PT 86 X

Catalogue in brief:

- * Power and speed
- * Dimensions
- * Electrical connections
- * General description
- * Matching tail drum



Power P	Revolutions n	poles p	Current 400 V/50 Hz	Belt speed v	Belt pull F	Torque T
Watt	min ⁻¹		A	m/s	N	Nm
30	1310	4	0,16	0,065	461	20,1
				0,08	375	16,3
40	1260	4	0,17	0,10	400	17,4
				0,125	320	13,9
				0,16	250	10,9
				0,20	200	8,7
				0,25	160	7,0
				0,32	125	5,4
				0,40	175	7,6
55	2625	2	0,17	0,50	140	6,1
				0,13	423	18,4
70	2625	2	0,18	0,16	343	14,9
				0,20	350	15,2
				0,25	280	12,2
				0,32	219	9,5
				0,40	175	7,6
				0,50	140	6,1
				0,63	111	4,8
				0,80	88	3,8
1,00	70	3,0				

(The belt speed shown is at 50 Hz)

Series Alpha

Drum motors from **Series Alpha** are used in belt conveyors where the belt is in direct contact with the drum and covers it for at least $\frac{3}{4}$ of its length. The heat, generated inside the drum motor, is dissipated by the belt. The power-ratings (net output) of the **Series Alpha** Drum motors, listed in the table above, are optimized for these applications where an optimal heat dissipation is practice.

If heat dissipation is limited, a Drum motor from **Series Beta** is to be used.

For example when a lagging is applied to the drum or if sprockets are fitted. Also when powering a rotating brush and in various other applications where the belt doesn't touch the drum, as well as in cyclic mode, a motor from **Series Beta** is the right choice.

Drum motor PT 86 X Beta

Power and speed



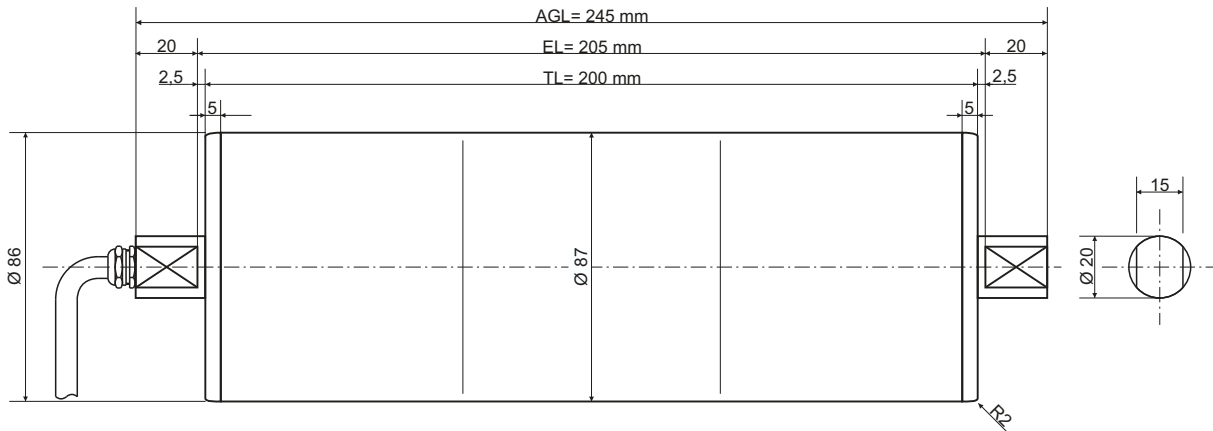
Power P	Revolutions n	Poles p	Current 400 V/50 Hz	Belt speed v	Belt pull F	Torque T
Watt	min ⁻¹		A	m/s	N	Nm
30	1310	4	0,16	0,065	461	20,1
				0,08	375	16,3
				0,10	300	13,1
				0,125	240	10,4
				0,16	188	8,2
				0,20	150	6,5
				0,25	120	5,2
				0,32	94	4,1
				0,40	75	3,3
				0,50	60	2,6
55	2625	2	0,17	0,13	423	18,4
				0,16	343	14,9
				0,20	275	12,0
				0,25	220	9,6
				0,32	172	7,5
				0,40	138	6,0
				0,50	110	4,8
				0,63	87	3,8
				0,80	69	3,0
				1,00	55	2,4

(The belt speed shown is at 50 Hz)

Series Beta

The power ratings (net output, see table above) of drum motors from **Series Beta** are optimized for applications where heat dissipation is limited. For example when a lagging is applied to the drum or if the belt isn't in contact with the drum. This is the case when driving hinged conveyor belts or positive drive belts with sprockets. Drum motors from **Series Beta** are also used in cyclic mode and reverser operation as well as in places with an elevated ambient temperature.

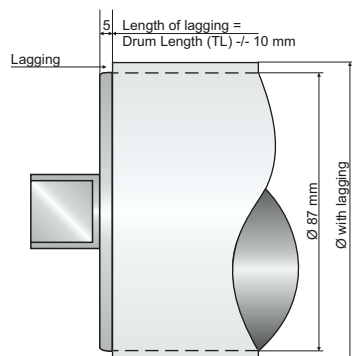
Drum motors from **Series Beta** can always be used in normal belt conveyors.



Standard length (TL mm)	200
Weight (1) (in kg)	7,0
Weight (2) (in kg)	8,0

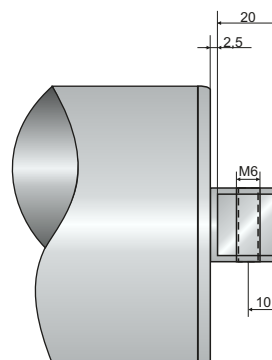
Drum motor type PT86X is a special execution of drum motor type PT87X and is only available in length (TL) 200 mm. For lengths 250 mm and up, please refer to PT87X.

- (1) Weight: Drum steel, flanges aluminum
(2) Weight: Drum and flanges Stainless Steel



Lagging (Optional)

To increase friction between the drum and the belt, a rubber lagging can be applied to the drum. Many sorts are available, depending on the application a choice can be made. By lagging the drum, the diameter increases, which effects the belt speed.



Threaded hole in the shaft (Optional)

To adjust the running of the belt, a threaded hole can be made in the shaft on the opposite side of electrical connection. Matching supports are available, see chapter 2 of the catalogue.



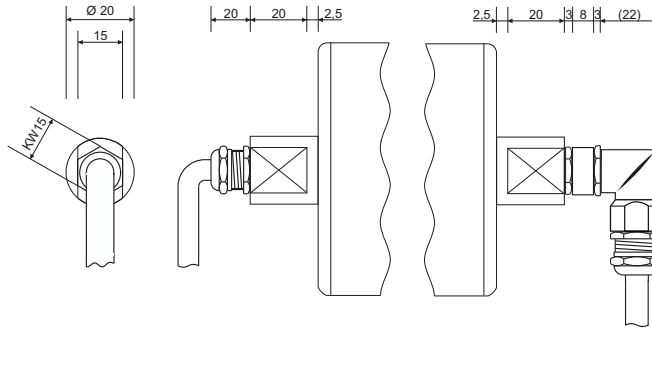
Drum motor PT 86 X Alpha and Beta

Electrical connection



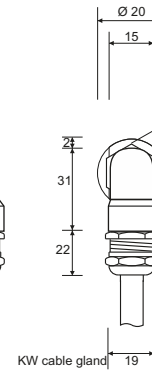
Type 1 EMC

Cable gland
messing-nickel plated
M12 x 1,5
Kabel Ø 7 mm
Length 1,5 m (standard)



Type 2 EMC

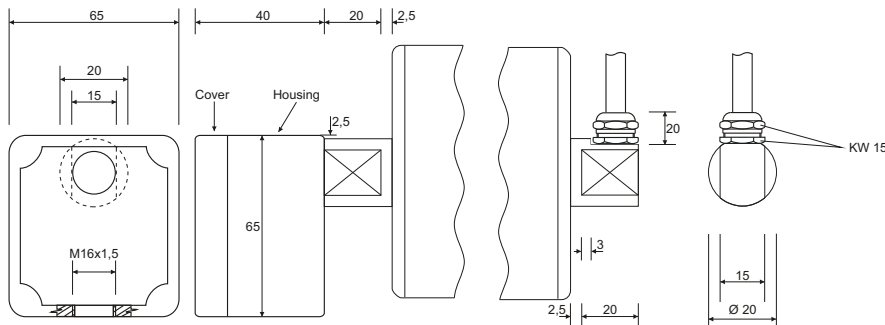
Reducer M12/M16
messing-nickel plated
Elbow connector
zinc plated
M16 x 1,5
Counter nut
messing-nickel plated
M16 x 1,5
Cable gland
messing-nickel plated
M16 x 1,5
Cable Ø 7 mm (standard)



Type 4 Aluminum

Junction box
aluminum
powdercoating
green - RAL 5021

Only one voltage
available
(star OR delta).

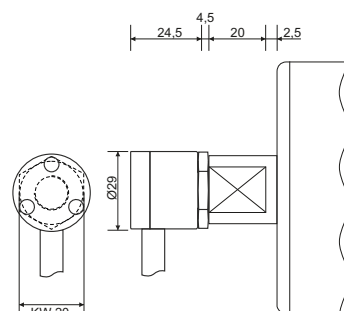


Type 3 EMC

Cable gland
messing-nickel plated
M12 x 1,5
Cable Ø 7 mm
Length 1,5 m (standard)

Type 5 Angular Cable exit, robust, St. St.

Angular cable exit Stainless Steel
Diameter 29 mm
Counter nut St.St. M12 x 1,5
Cable Ø 7 mm
Length 1,5 m (standard)



Drum motor PT 86 X

General description



The latest X-Series

The youngest generation Procon Drum Motors house a -for drum motors- unique transmission- and sealing concept. The new seal offers a reliable and durable protection against leakage.

Because of the revolutionary design of the transmission, an optimal lubrication is guaranteed, even if placed other than horizontal. This offers many new possibilities for application.

All Procon Drum motors are maintenance free.

Standard execution drum motor PT 86 X

- Drum shell Ø 87 mm, steel, crowned
- Shortest length (TL) 200 mm
- Flanges aluminum, shafts Stainless Steel
- Enclosure IP 66
- Electrical connection type 1 EMC met 1,5 m. screened cable
- Thermal protection (bi-metal)
- connection to 230/400 V - 50 Hz - 3 phase
- Steel gears, hardened and machine-cut
- full synthetic, high performance lubricant (grease), maintenance free.

Stainless Steel

Procon drum motors are also available in stainless steel (shafts, flanges and shell) with the same lead time. Crowned shells as well as cylindrical ones.

Type 1, 3 and 5 electrical connections are also available in stainless steel.

Lagging

The drum may be rubber coated to increase friction. Mostly a 4 mm white, oil & fat resistant lagging is used.

If required one or more tracking grooves can be made in the lagging.

Also special laggings are available such as hot-vulcanised Polyurethane- and Nitrile rubber.

It is to be considered that the total diameter increases when a lagging is applied. Please also refer to page 4.9 general catalogue

General recommendations

Drum motors are, unless specifically stated, designed to drive a conveyor belt, where $\frac{3}{4}$ of the length of the motor is covered by the belt (Series Alpha). The motor must drive the belt without slipping. The belt dissipates the heat of the motor.

For applications without the belt covering the motor, special motors are available (Series Beta).

The drum motor must be secured in the conveyor frame.

Shown data correspond to matter of fact at printing. Technical alterations may be made without prior notification.

Voltages

- | | | | |
|-------|-------------------|---|-------------------|
| Star | 360 - 440 V/50 Hz | - | 380 - 460 V/60 Hz |
| Delta | 200 - 230 V/50 Hz | - | 220 - 270 V/60 Hz |

Procon drum motors are a-synchronous alternating current motors. Special voltages (for export) are available.

Normally connection in star and delta is possible. An exception to this is type 4 (aluminum junction box). Here the voltage (230 V OR 400 V) must be known when ordering.

All Procon drum motors can be operated with a single phase frequency convertor. Also, refer to page 4.8 - general catalogue.

Food quality lubrication

Procon drum motors can be delivered with a lubricant (grease) to USDA-H1 norm. All lubricants used by Procon are full-synthetic and maintenance free.

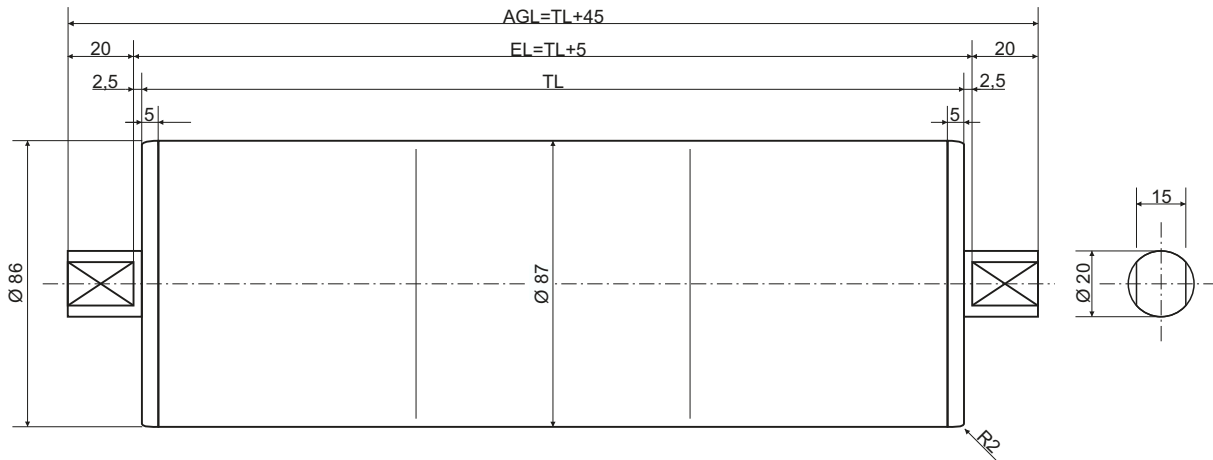
Special execution

The application of Procon drum motors is versatile. The number of variants is large.

Below a few possibilities:

- Special lengths – also over 1000 mm length
- Installation of an encoder or el./magn. brake
- Special motors for no-belt applications
- Special motors for countries with different voltages (export)
- Special shells e.g. with welded sprockets
- Special flanges with threaded holes
- Drum motor as brush-drive or as pallet-drive

If you have an application for a drum motor, please contact us for further information.



Standard length (TL mm)	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Weight (1) (in kg)	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5	7,0	7,5	8,0	8,5	9,0	9,5	10,0	10,5
Weight (2) (in kg)	3,5	4,0	4,5	5,0	5,5	6,0	6,5	7,0	7,5	8,0	8,5	9,0	9,5	10,0	10,5	11,0	11,5

(1) Weight: Drum steel, flanges aluminum

(2) Weight: Drum and flanges Stainless Steel

General

Procon tail drums offer a meaningful completion to the drum motor program.
The outer dimensions of the tail drum PU 87X (TL=200 mm) exactly match those of the drum motor PT 86X, making conveyor design easy and build simple.

Features

The shafts of the Procon tail drums are Stainless Steel.
To tighten the belt and to adjust it, in the shafts a threaded hole can be made (optional).

As standard the flanges are aluminum and the shell is mild steel, crowned for optimal belt steering. Both are also available in stainless steel (standard option).

Cylindrical shells are available.

Enclosure

Procon tail drums are equipped with a robust sealing to IP 66 (VDE 0470) standard.