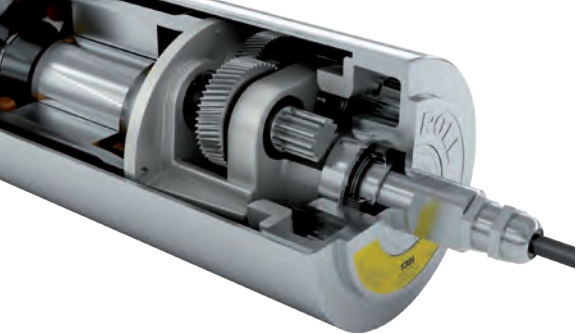




INTERROLL

DRUM MOTOR 165i



Standard
Asynchronous
Drum Motors
165i

Product Description

Applications	The drum motor is outstandingly robust with a strong torque and can take a high radial load.			
	✓ Conveyors with high-duty cycles	✓ Agricultural plants	✓ Logistics applications	✓ Food processing
Characteristics	✓ Airport and postal conveyors	✓ Steel or plastic modular belt applications	✓ Warehouse loading conveyors	✓ Dry, wet and wash-down applications
	✓ Telescopic conveyors			
	✓ Salt-water-resistant aluminium end housings	✓ Low noise	✓ 3-phase AC induction motor	✓ Maintenance-free
	✓ Dual voltage	✓ Lifetime lubricated	✓ Integral thermal motor protection	✓ Reversible
	✓ Steel-hardened helical spur gear	✓ Reinforced shaft for SL above 1,000 mm		

Technical Data

Electrical data	
Motor type	Asynchronous squirrel cage motor, IEC 34 (VDE 0530)
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V ±5 % (IEC 34/38) Most international voltages and frequencies can be supplied on request
Frequency	50 Hz
Internal shaft sealing system	Double-lipped, FPM
Protection rate	IP66
Thermal protection (see p 207)	Bi-metal switch
Operating modes (see p 194)	S1
Ambient temperature, 3-phase motor (see p 171)	+5 to +40 °C
Ambient temperature, 3-phase motor for applications with positive drive belts, or without belts (see p 171)	+5 to +25 °C
General technical data	
Max. shell length SL	1,750 mm

Order Information

Please refer to the Configurator at the end of the catalogue.

Material Versions

You can choose the following versions of drum body components and electrical connection. The versions depend on the material of the components.

Component	Version	Material				
		Aluminium	Mild steel	Stainless steel	Brass / Nickel	Techno-polymer
Shell	Crowned		✓	✓		
	Cylindrical		✓	✓		
	Cylindrical + key, for using sprockets		✓	✓		
End housing	Standard	✓		✓		
	With grooves and chain sprockets	✓		✓		
Shaft	Standard		✓	✓		
	Cross-drilled thread, M10		✓	✓		
External seal	Galvanised labyrinth		✓			
	Stainless steel Labyrinth			✓		
Electrical connector	Straight connector			✓	✓	
	Elbow connector			✓		✓
	Terminal box	✓		✓		✓

Please contact your Interroll customer consultant for further versions.

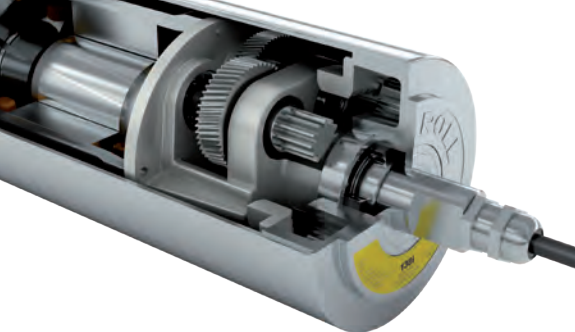
Options

- Lagging for friction drive belts, see p 106
 - Lagging for plastic modular belts, see p 112
 - Lagging for positive drive solid homogeneous belts, see p 116
 - Backstops, see p 118
 - Balancing, see p 119
 - Electromagnetic brakes and rectifiers, see p 120
- Feedback Devices, see p 126
 - Food-grade oil (EU, FDA), see p 218
 - Low temperature oil, see p 218
 - Labyrinth with FPM, see p 210
 - cULus safety certifications, see p 213
 - Non-horizontal mounting (more than ± 5°), see p 195

Note: Combination of encoder and electromagnetic brake is not possible.

Accessories

- Mounting brackets, see p 136
 - Idler pulleys, see p 146
- Conveyor rollers, see p 152



Standard
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165i

INTERROLL

DRUM MOTOR 165i

High-torque compact drive for conveyors with high-duty cycles

Product Range

The following tables give an overview of the possible motor versions. When ordering, please specify the version in accordance with the configurator at the end of the catalogue.

All data and values in this catalogue refer to 50 Hz operation.

Motor versions

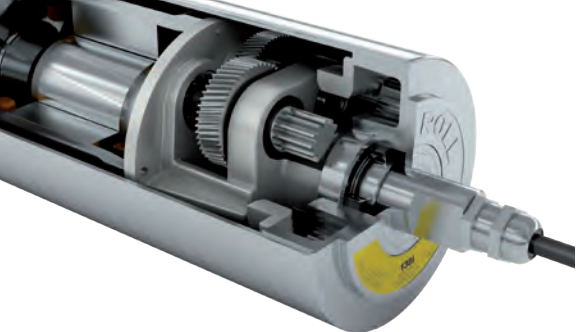
Mechanical data for 3-phase motors (Standard motors)

P _N kW	np	gs	i	v m/s	n _A min ⁻¹	M _A Nm	F _N N	SL _{min} mm
0.370	12	3	46.56	0.084	9.8	339.6	4,142	450
			62.37	0.100	11.1	300.6	3,666	400
			46.56	0.127	14.8	224.4	2,736	400
	4	3	62.37	0.189	22.0	158.5	1,933	400
			46.56	0.254	29.5	118.3	1,443	400
			39.31	0.300	35.0	99.9	1,218	400
			31.56	0.374	43.6	80.2	978	400
			24.60	0.480	55.9	62.5	762	400
		2	19.64	0.601	70.0	50.9	621	400
			14.66	0.806	93.8	38.0	464	400
			12.38	0.954	111.1	32.1	391	400
0.550	6	3	62.37	0.116	13.5	365.2	4,453	400
			46.56	0.156	18.1	272.6	3,324	400
0.750	6	3	46.56	0.156	18.1	371.6	4,532	450
			62.37	0.187	21.7	310.6	3,787	400
			46.56	0.250	29.1	231.8	2,827	400
	4	3	39.31	0.296	34.5	195.7	2,387	400
			31.56	0.369	42.9	157.1	1,916	400
			24.60	0.473	55.1	122.5	1,494	400
		2	19.64	0.593	69.0	99.8	1,217	400
			14.66	0.794	92.4	74.5	908	400
			12.38	0.940	109.5	62.9	767	400
1.100	4	3	46.56	0.243	28.4	348.8	4,254	400
			39.31	0.288	33.6	294.5	3,591	400
			31.56	0.359	41.8	236.4	2,883	400
	2	3	24.60	0.461	53.7	184.3	2,248	400
			19.64	0.577	67.2	150.1	1,831	400
			14.66	0.773	90.1	112.1	1,366	400
			12.38	0.916	106.7	94.6	1,154	400
		2	46.56	0.525	61.1	161.7	1,972	400
			39.31	0.621	72.4	136.5	1,665	400
			24.60	0.993	115.7	85.4	1,042	400
1.500	4	3	19.64	1.244	144.9	69.6	849	400
			14.66	1.667	194.1	51.9	633	400
			12.38	1.974	229.9	43.9	535	400
	2	3	9.65	2.532	294.8	34.2	417	400
			31.56	0.379	44.1	305.3	3,723	450
			24.60	0.486	56.6	238.0	2,903	450
			19.64	0.609	70.9	193.9	2,364	450
			14.66	0.816	95.0	144.7	1,765	450
			12.38	0.967	112.6	122.2	1,490	450
2.200	2	3	46.56	0.524	61.0	324.3	3,954	450
			39.31	0.620	72.2	273.8	3,339	450
			31.56	0.773	90.0	219.8	2,680	450
	2	2	24.60	0.991	115.4	171.3	2,089	450
			19.64	1.242	144.6	139.6	1,702	450
			14.66	1.664	193.8	104.2	1,270	450
			12.38	1.971	229.5	87.9	1,073	450
			9.65	2.527	294.3	68.6	836	450

Mechanical data for 3-phase motors (Motors for applications with positive drive belts or no belts)

P _N kW	np	gs	i	v m/s	n _A min ⁻¹	M _A Nm	F _N N	SL _{min} mm
0.306	12	3	46.56	0.083	9.8	280.8	3,467	450
	8	3	62.37	0.100	13.5	204.2	2,521	400
0.455	6	3	62.37	0.115	13.5	301.9	3,727	400
			46.56	0.154	18.1	225.3	2,782	400
0.620	6	3	46.56	0.158	18.6	299.9	3,703	450
			62.37	0.187	22.1	252.3	3,114	400
			46.56	0.251	29.6	188.3	2,325	400
	4	3	39.31	0.297	35.1	159.0	1,963	400
			31.56	0.370	43.7	127.6	1,576	400
			24.60	0.475	56.0	99.5	1,228	400
			19.64	0.595	70.2	81.0	1,000	400
			14.66	0.797	94.0	60.5	747	400
			12.38	0.945	111.4	51.1	630	400
		2	19.64	0.595	70.2	81.0	1,000	400
			14.66	0.797	94.0	60.5	747	400
0.909	4	3	46.56	0.240	28.4	288.2	3,558	400
			39.31	0.285	33.6	243.3	3,004	400
			31.56	0.355	41.8	195.3	2,411	400
	2	3	24.60	0.455	53.7	152.3	1,880	400
			19.64	0.570	67.2	124.0	1,531	400
			14.66	0.764	90.1	92.6	1,143	400
			12.38	0.905	106.7	78.2	965	400
		2	46.56	0.521	61.4	133.0	1,642	400
			39.31	0.617	72.8	112.3	1,386	400
			24.60	0.986	116.3	70.3	868	400
	2	2	19.64	1.235	145.6	57.2	707	400
			14.66	1.655	195.1	42.7	527	400
			12.38	1.960	231.1	36.1	445	400
			9.65	2.514	296.4	28.1	347	400
1.240	4	3	31.56	0.374	44.1	252.5	3,117	450
			24.60	0.480	56.6	196.8	2,430	450
			19.64	0.602	70.9	160.3	1,979	450
	2	3	14.66	0.806	95.0	119.7	1,477	450
			12.38	0.955	112.6	101.0	1,247	450
			9.65	2.514	296.4	28.1	347	400
1.818	2	3	31.56	0.374	44.1	252.5	3,117	450
			24.60	0.480	56.6	196.8	2,430	450
			19.64	0.602	70.9	160.3	1,979	450
	2	3	14.66	0.806	95.0	119.7	1,477	450
			12.38	0.955	112.6	101.0	1,247	450
			9.65	2.514	296.4	28.1	347	400
		2	46.56	0.519	61.2	267.0	3,296	450
			39.31	0.615	72.5	225.4	2,783	450
			31.56	0.766	90.3	180.9	2,234	450
	2	2	24.60	0.983	115.9	141.1	1,741	450
			19.64	1.231	145.1	114.9	1,418	450
			14.66	1.649	194.4	85.8	1,059	450
			12.38	1.953	230.3	72.4	894	450
			9.65	2.505	295.3	56.5	697	450
			9.65	2.505	295.3	56.5	697	450

P _N	Rated power
np	Number of poles
gs	Gear stages
i	Gear ratio
v	Rated velocity of the shell
n _A	Rated revolutions of the drum shell
M _A	Rated torque of drum motor
F _N	Rated belt pull of drum motor
SL _{min}	Min. shell length



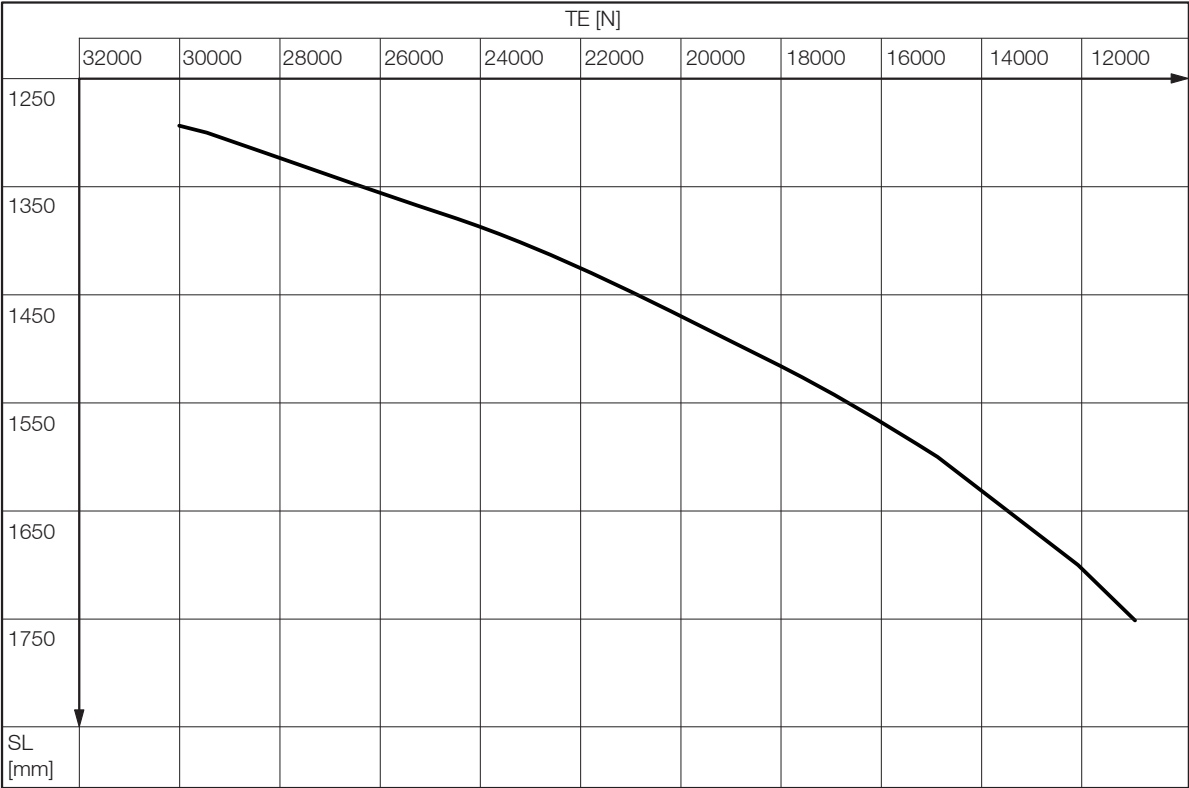
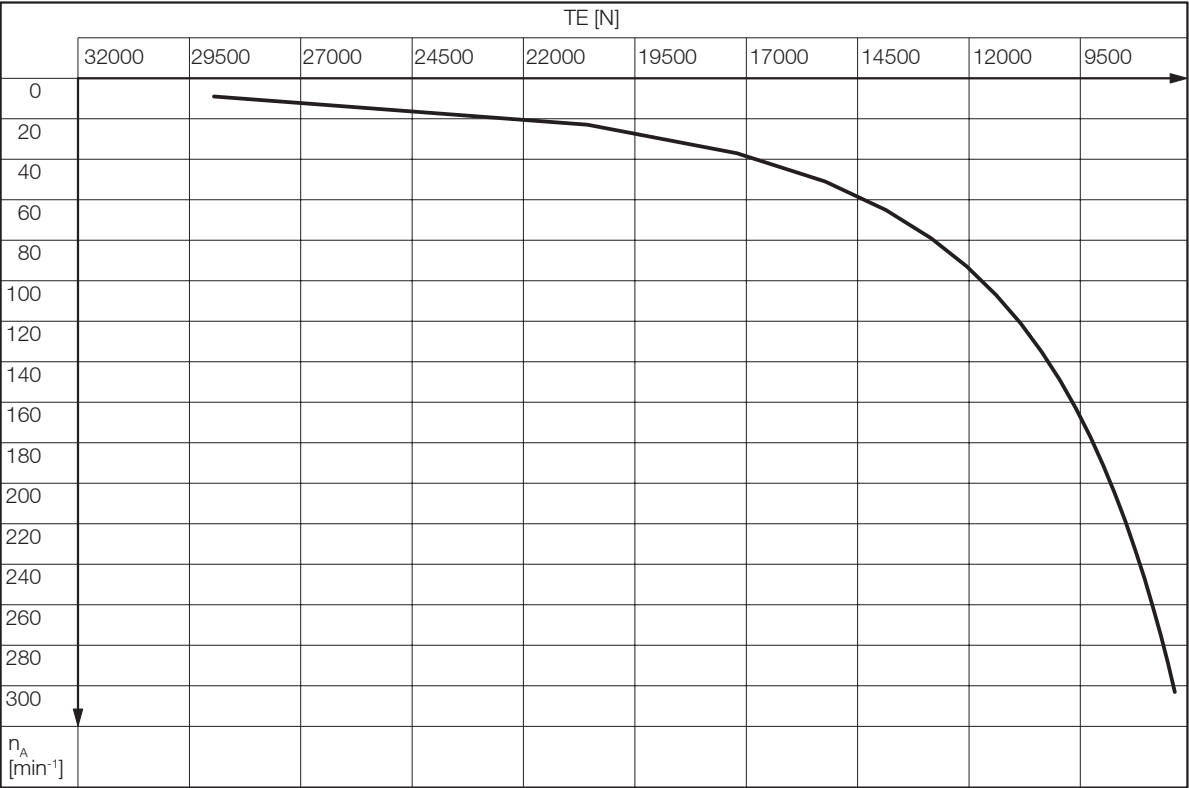
INTERROLL DRUM MOTOR 165i



Standard
Asynchronous
Drum Motors
165i

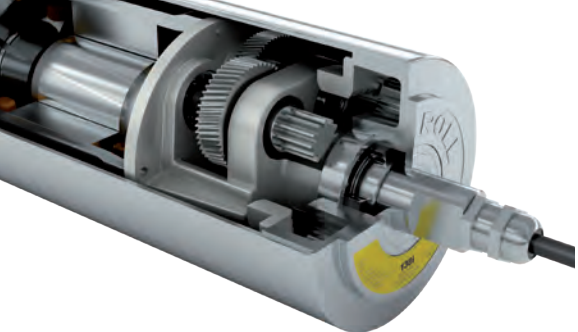
High-torque compact drive for conveyors with high-duty cycles

Belt Tension



TE	Belt Tension
n _A	Rated revolutions of the drum shell
SL	Shell length

Note: To get the right value of the maximum allowed belt tension, first find the maximum allowed TE value for the drum motor RPM. For motors with SL > 1,300 mm, check if the maximum allowed TE value for the SL is lower. In this case, use the lower value as maximum allowed TE value.



INTERROLL

DRUM MOTOR 165i



Standard
Asynchronous
Drum Motors
165i

High-torque compact drive for conveyors with high-duty cycles

Electrical data for 3-phase motors (Standard motors)

P _N kW	np	U _N V	I _N A	cos φ	η	J _R kgcm ²	I _S /I _N	M _S /M _N	M _P /M _N	M _B /M _N	R _M Ω	U _{SH delta} V DC	U _{SH star} V DC
0.370	12	230	2.77	0.63	0.53	35.1	2.0	1.20	1.20	1.50	19.4	17	-
		400	1.60	0.63	0.53	35.1	2.0	1.20	1.20	1.50	19.4	-	29
	8	230	2.42	0.62	0.57	22.6	2.9	1.90	1.90	2.35	22.0	17	-
		400	1.50	0.62	0.57	22.6	2.9	1.90	1.90	2.35	22.0	-	31
	4	230	1.90	0.77	0.66	11.3	3.2	1.60	1.60	1.80	29.2	21	-
		400	1.10	0.77	0.66	11.3	3.2	1.60	1.60	1.80	29.2	-	37
0.550	6	230	2.77	0.69	0.72	22.6	3.4	1.40	1.40	1.65	19.5	19	-
		400	1.60	0.69	0.72	22.6	3.4	1.40	1.40	1.65	19.5	-	32
0.750	6	230	3.64	0.81	0.64	22.6	3.5	1.75	1.75	2.00	6.2	9	-
		400	2.10	0.81	0.64	22.6	3.5	1.75	1.75	2.00	6.2	-	16
		230	3.12	0.80	0.75	11.3	3.5	1.53	1.30	1.80	23.9	30	-
	4	400	1.80	0.80	0.75	11.3	3.5	1.53	1.30	1.80	23.9	-	52
		230	4.85	0.82	0.69	11.3	3.5	1.50	1.30	1.70	7.2	14	-
		400	2.80	0.82	0.69	11.3	3.5	1.50	1.30	1.70	7.2	-	25
1.100	4	230	4.16	0.86	0.77	7.6	5.2	3.15	2.10	3.42	2.9	5	-
		400	2.40	0.86	0.77	7.6	5.2	3.15	2.10	3.42	2.9	-	9
	2	230	6.06	0.87	0.71	19.8	3.8	1.55	1.55	2.10	5.2	14	-
		400	3.50	0.87	0.71	19.8	3.8	1.55	1.55	2.10	5.2	-	24
		230	7.88	0.86	0.81	7.6	5.3	2.60	2.60	3.20	6.2	21	-
		400	4.55	0.86	0.81	7.6	5.3	2.60	2.60	3.20	6.2	-	36

Electrical data for 3-phase motors (Motors for applications with positive drive belts or no belts)

P _N kW	np	U _N V	I _N A	cos φ	η	J _R kgcm ²	I _S /I _N	M _S /M _N	M _P /M _N	M _B /M _N	R _M Ω	U _{SH delta} V DC	U _{SH star} V DC
0.306	12	230	2.51	0.62	0.49	35.1	1.8	1.74	1.57	1.98	22.4	17	-
		400	1.45	0.62	0.49	35.1	1.8	1.74	1.57	1.98	22.4	-	30
	8	230	1.97	0.62	0.62	22.6	2.9	1.24	1.16	1.40	28.0	17	-
		400	1.15	0.62	0.62	22.6	2.9	1.24	1.16	1.40	28.0	-	30
0.455	6	230	2.04	0.75	0.74	22.6	3.1	1.07	1.07	1.07	25.0	19	-
		400	1.18	0.75	0.74	22.6	3.1	1.07	1.07	1.07	25.0	-	33
0.620	6	230	3.30	0.78	0.60	22.6	3.2	1.17	1.16	1.20	6.2	8	-
		400	1.91	0.78	0.60	22.6	3.2	1.17	1.16	1.20	6.2	-	14
	4	230	2.55	0.80	0.76	11.3	3.6	1.26	1.07	1.49	14.4	15	-
		400	1.48	0.80	0.76	11.3	3.6	1.26	1.07	1.49	14.4	-	26
	4	230	3.92	0.84	0.69	11.3	3.7	1.16	1.07	1.24	8.3	14	-
		400	2.27	0.84	0.69	11.3	3.7	1.16	1.07	1.24	8.3	-	24
0.909	2	230	3.30	0.86	0.80	7.3	4.6	2.48	1.74	2.64	6.2	9	-
		400	1.91	0.86	0.80	7.3	4.6	2.48	1.74	2.64	6.2	-	15
	4	230	4.94	0.80	0.78	19.8	3.5	1.18	1.07	1.21	6.2	12	-
		400	2.86	0.80	0.78	19.8	3.5	1.18	1.07	1.21	6.2	-	21
1.818	2	230	6.43	0.85	0.83	7.6	4.8	2.07	1.65	2.31	6.2	17	-
		400	3.73	0.85	0.83	7.6	4.8	2.07	1.65	2.31	6.2	-	29

P _N	Rated power
np	Number of poles
U _N	Rated voltage
I _N	Rated current
cos φ	Power factor
η	Efficiency
J _R	Rotor moment of inertia
I _S /I _N	Ratio of starting current to rated current
M _S /M _N	Ratio of starting torque to rated torque
M _P /M _N	Ratio of pull-up torque to rated torque
M _B /M _N	Ratio of break-down torque to rated torque
R _M	Phase resistance
U _{SH delta}	Preheating voltage in delta connection
U _{SH star}	Preheating voltage in star connection

Cable Specifications

Available cables for connectors (see also p 214):

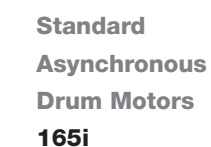
- Standard, screened
- Standard, unscreened
- Halogen-free, screened
- Halogen-free, unscreened

Halogen-free cables are not available for motors with UL certification above 1.5 kW power.

Available length: 1 / 3 / 5 / 10 m

Connection Diagrams

For connection diagrams, see Planning Section on p 222.



Dimensions



Connector dimensions

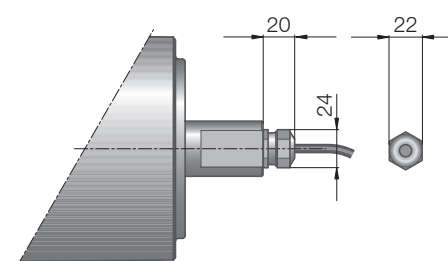


Fig.: Straight connector, brass/nickel

Fig.: Straight connector, stainless steel

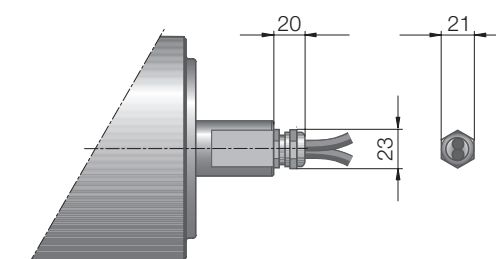


Fig.: Straight cable outlet, PU shaft plug

Fig.: Straight connector / Feedback device, brass/nickel

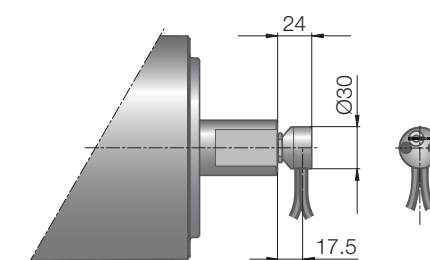


Fig.: Elbow connector, stainless steel

**Fig.: Elbow connector / Feedback device,
stainless steel**

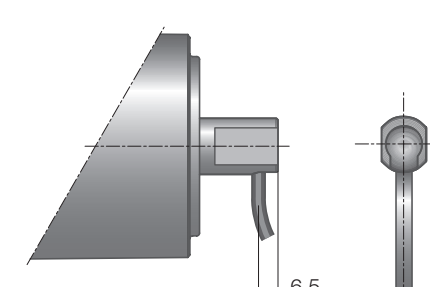
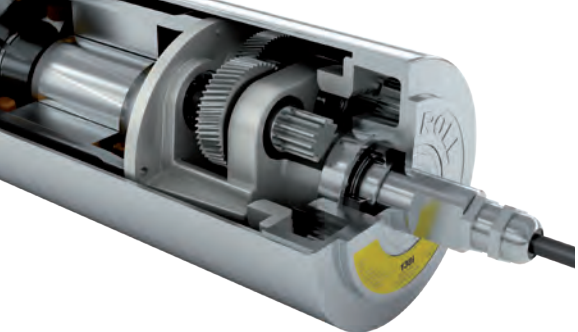


Fig.: Elbow connector, technopolymer

Fig.: Cable slot connector



INTERROLL DRUM MOTOR 165i

High-torque compact drive for conveyors with high-duty cycles

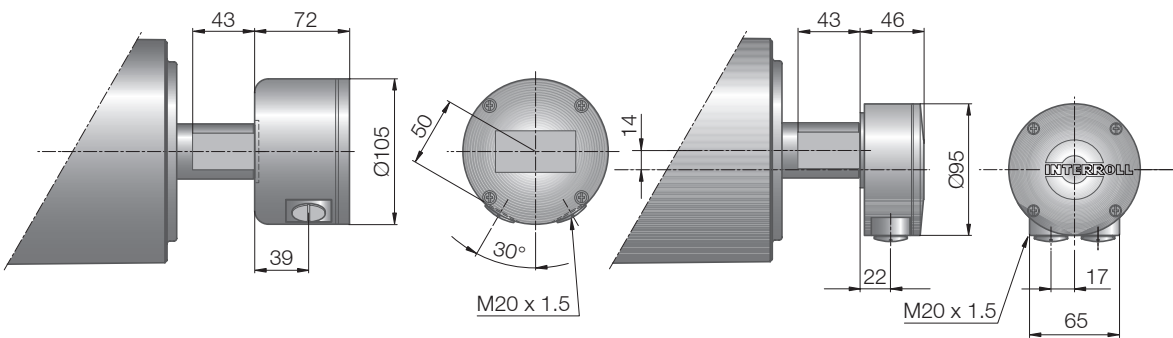


Fig.: Terminal box, technopolymer

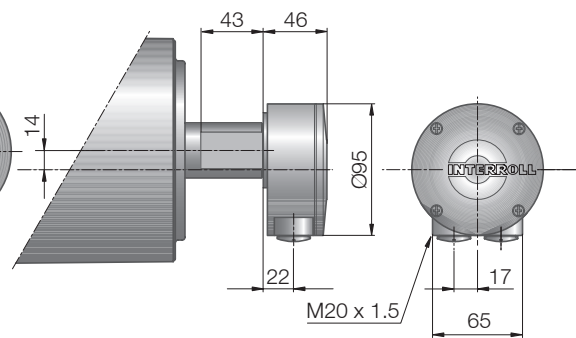


Fig.: Terminal box, aluminium

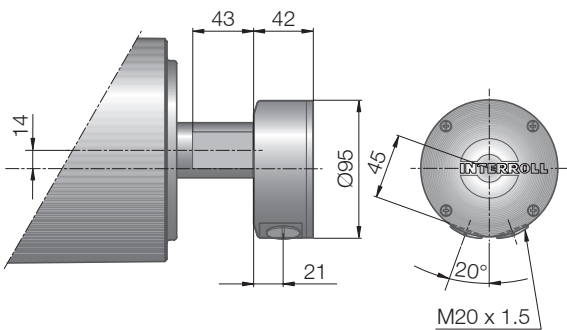


Fig.: Terminal box, stainless steel

Shafts for fixing

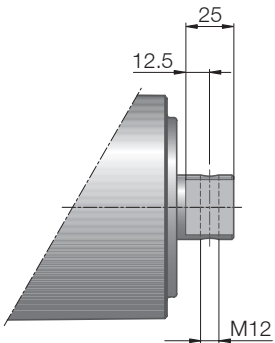


Fig.: Shaft, cross-drilled and threaded

For cross-drilled and threaded hole the shaft flat length is reduced from 45 to 25 mm.

The following options increase the minimum length of the drum motor.

Option	Min. SL with option mm
Brake	Min. SL + 50
Encoder	Min. SL + 50
Cable slot connector	Min. SL + 50

Standard drum motor lengths and their weights:

Shell length SL in mm	400	450	500	550	600	650	700	750	800	850	900
Average weight in kg	35.00	36.90	38.80	40.70	42.60	44.50	46.40	48.30	50.20	52.10	54.00
Shell length SL in mm	950	1,000	1,050	1,100	1,150	1,200	1,250	1,300	1,350	1,400	1,450
Average weight in kg	55.90	57.80	65.67	67.76	69.85	71.94	74.03	76.12	78.21	80.30	82.39
Shell length SL in mm	1,500	1,550	1,600	1,650	1,700	1,750					
Average weight in kg	84.48	86.57	88.66	90.75	92.84	94.93					

Min. length with
option

Standard length
and weight