

OPTIONS

- ✓ Interroll's focus is on optimum customisation for your application when developing options for Interroll Drum Motors.
- ✓ This chapter includes options which are integral to the Interroll Drum Motor when it is delivered.

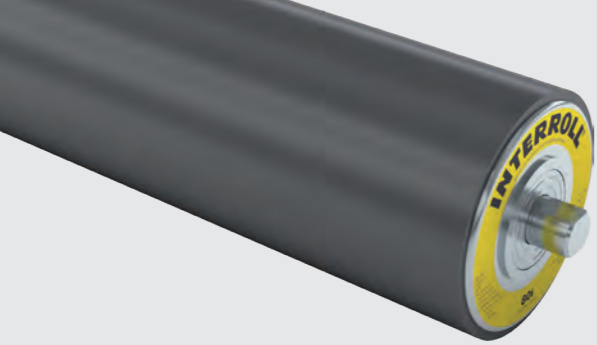


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LAGGING FOR FRICTION DRIVE BELTS

Smooth or specially grooved lagging to increase friction between drum motor shell and conveyor belt

Product Description

- ✓ Wet applications
- ✓ For standard drum motors
- ✓ High resistance to oil, fuel and other chemicals
- ✓ Lagging increases friction between drum motor shell and conveyor belt
- ✓ Lagging prevents slip between drum motor shell and conveyor belt
- ✓ Longitudinal grooved lagging reduces liquids between belt and shell
- ✓ Food and hygienic applications
- ✓ Flat belt, multi V-belt or round belt applications
- ✓ Centered V-groove for belt tracking facility
- ✓ Multiple V-grooves for V-belt or round belt conveyors
- ✓ Hot vulcanisation for high-torque drum motors
- ✓ Hot vulcanisation is more hygienic

Note: Lagging has an influence on the outer diameter of the drum motor and on the velocity. Belt pull and speed of the drum motor must be recalculated according to the increased diameter.

Technical Data

Material	Hot or cold vulcanised NBR (Other materials on request)
Ambient temperature	-40 to +120 °C
Shore hardness	65 to 70 ± 5 Shore A

Product Range

Cold vulcanisation

Lagging profile	Colour	Characteristics	Shore hardness	Thickness mm
Smooth	Black	Oil- and fat-resistant	70 ± 5 Shore A	3, 4, 5, 6, 8, 10, 12,
	White	FDA food approved	70 ± 5 Shore A	
Longitudinal grooves	Black	Oil- and fat-resistant	60 ± 5 Shore A	8
	White	FDA food approved	70 ± 5 Shore A	
Diamond patterned	Black	Oil- and fat-resistant	60 ± 5 Shore A	8

Hot vulcanisation

Lagging profile	Colour	Characteristics	Shore hardness	Thickness mm
Smooth	Black	Oil- and fat-resistant	65 ± 5 Shore A	2, 4, 5, 6, 8, 10, 12, 14
	White	FDA food approved	70 ± 5 Shore A	
	Blue	Food quality (not FDA)	70 ± 5 Shore A	
Longitudinal grooves	Black	Oil- and fat-resistant	65 ± 5 Shore A	6, 8, 10, 12, 14
	White	FDA food approved	70 ± 5 Shore A	
	Blue	Food quality (not FDA)	70 ± 5 Shore A	
Diamond patterned	Black	Oil- and fat-resistant	65 ± 5 Shore A	6, 8, 10, 12, 14
	White	FDA food approved	70 ± 5 Shore A	
	Blue	Food quality (not FDA)	70 ± 5 Shore A	
V-groove	Black	Oil- and fat-resistant	65 ± 5 Shore A	6, 8, 10, 12, 14
	White	FDA food approved	70 ± 5 Shore A	
	Blue	Food quality (not FDA)	70 ± 5 Shore A	

LAGGING FOR FRICTION DRIVE BELTS

Smooth or specially grooved lagging to increase friction
between drum motor shell and conveyor belt

Smooth

Dimensions

Cold and hot vulcanisation

Please refer to the following table for standard crowning of rubber lagging.

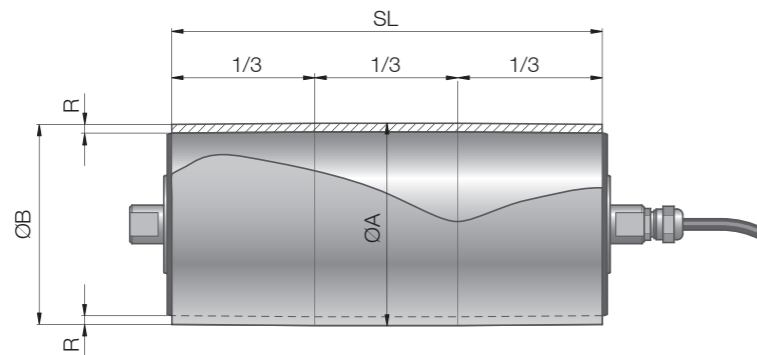


Fig.: Smooth lagging

Drum motor	Shell Ø mm	Cold vulcaisation			Hot vulcaisation		
		Min./max. R mm	Ø A mm	Ø B mm	Min./max. R mm	Ø A mm	Ø B mm
80S	81.5	3	87.5	86.0	2	85.5	84.0
		6	93.5	92.0	6	93.5	92.0
80i	81.5	3	87.5	86.5	2	85.5	84.5
		6	93.5	92.5	14	109.5	108.5
113S	113.3	3	119.3	117.8	2	117.3	115.8
		6	125.3	123.8	6	125.3	123.8
113i	113.5	3	119.5	118.0	2	117.5	116.0
		10	133.5	132.0	14	141.5	140.0
138i	138.0	3	144.0	142.0	2	142.0	140.0
		12	162.0	160.0	14	166.0	164.0
165i	164.0	3	170.0	168.0	2	168.0	166.0
		12	188.0	186.0	14	192.0	190.0
216i/217i	215.5	3	221.5	219.5	2	219.5	217.5
		12	239.5	237.5	14	243.5	241.5

Note: S-series may be subject to thermal overload. Please contact your Interroll customer consultant for further information.

For other drum motors with lagging please contact your Interroll customer consultant.

Cold and hot vulcanisation

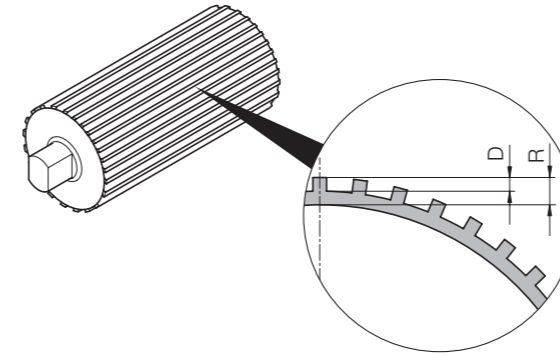


Fig.: Longitudinal grooved lagging

D mm	R, cold vulcanisation mm	R, hot vulcanisation mm
4	8	6, 8, 10, 12, 14

For other groove depths please contact your Interroll customer consultant.

Cold and hot vulcanisation

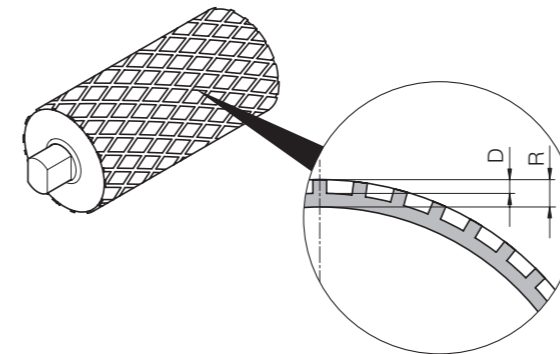


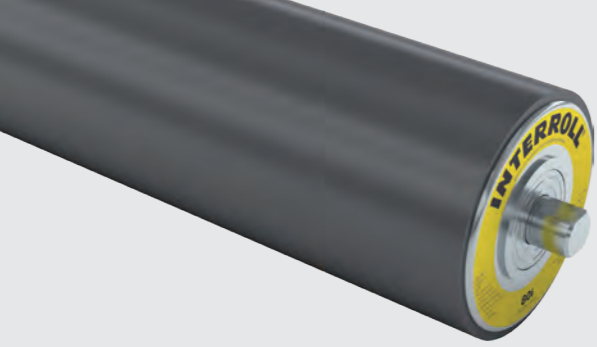
Fig.: Diamond patterned lagging

D mm	R, cold vulcanisation mm	R, hot vulcanisation mm
4	8	6, 8, 10, 12, 14

For other groove depths please contact your Interroll customer consultant.

Longitudinal

Diamond
patterned



LAGGING FOR FRICTION DRIVE BELTS

Smooth or specially grooved lagging to increase friction between drum motor shell and conveyor belt

V-grooved

Hot vulcanisation

A centered V-groove in the lagging enables the use of conveyor belts fitted with a tracking profile on the underside of the belt which helps to prevent belt wander. The drum lagging groove should not be used to guide the belt. The actual tracking and guiding of the belt should be made using a conveyor slide bed or roller bed with built in tracking grooves.

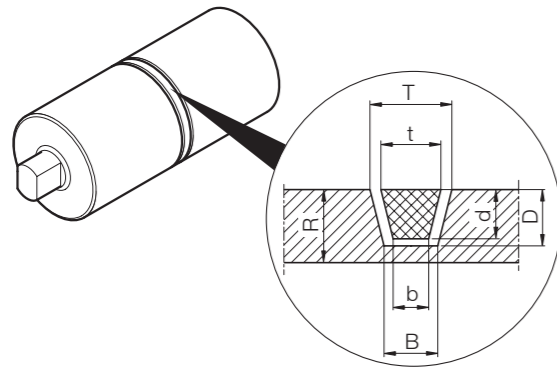
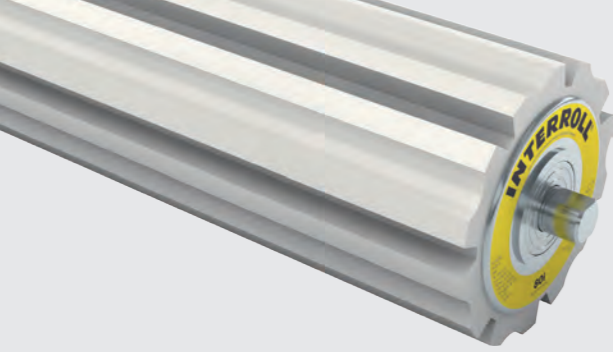


Fig.: V-grooved lagging

Groove	R Standard mm	R Option mm	Groove			Belt		
			T mm	B mm	D mm	t mm	b mm	d mm
K6	8	6	10	8	5	6	4	4
K8	8	6	12	8	6	8	5	5
K10	10	8	14	10	7	10	6	6
K13	12	10	17	11	9	13	7.5	8
K15	12	10	19	13	9	15	9.5	8
K17	14	12	21	13	12	17	9.5	11

Note: Standard rubber thickness must be used with a mild steel shell in wet applications.



LAGGING FOR PLASTIC MODULAR BELTS

Specially produced lagging based on the specification of plastic modular belt manufacturers



Options
Lagging for
Plastic Modular
Belts

Product Description

- ✓ Food and hygienic applications
- ✓ For driving most common plastic modular belts
- ✓ For cool-running drum motors (see p 90)
- ✓ For standard drum motors with frequency converter (see p 258). The frequency converter should be set up to reduce the power by 18 %.

Note: For S-series drum motors with lagging please contact your Interroll customer consultant.

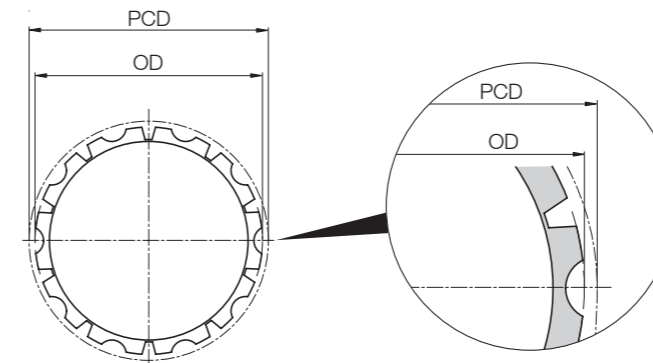
- ✓ Resistant to abrasion
- ✓ Quiet operation
- ✓ Reduced wear on belt
- ✓ Easy to clean
- ✓ High resistance to oil, fat and chemicals

Note: Lagging has an influence on the outer diameter of the drum motor and on the velocity. The belt pull and speed of the drum motor must be recalculated according to the increased diameter. Refer to the velocity factor (Vf) in the table below.

Technical Data

Material	Hot vulcanised NBR
Ambient temperature	-40 to +120 °C
Shore hardness	65 to 70 ± 5 Shore A

Product Range



- Z Number of teeth
- OD Outer diameter in mm
- PCD Pitch circle diameter in mm
- Vf Velocity factor
- ! Information on request

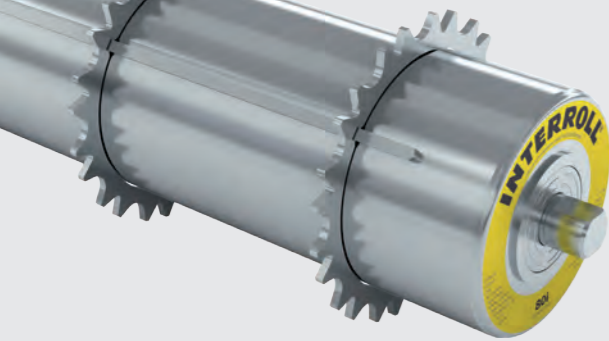
Plastic modular belt manufacturer	Series	Lagging																							
		80i				113i				138i				165i				216i/217i							
		Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf				
Ammeraal	HDS60500	24	98.50	97.30	1.19	32	131.00	129.57	1.14					38	155.20	153.79	1.11								
		30	122.80	121.50	1.49	36	147.10	145.72	1.28																
	HDS61000	12	99.00	98.14	1.20	16	132.00	130.20	1.15					19	156.60	154.32	1.12	23	!	186.54	1.14	30	!	243.00	1.12
		15	123.40	122.17	1.50																				
	HDS62000	7	110.80	114.10	1.40	9	144.20	146.20	1.29					10	160.50	161.80	1.17	12	193.00	193.25	1.18	15	!	242.33	1.12
		8	127.50	130.70	1.60					11	!	178.31	1.29									16	!	258.39	1.19
HabasitLINK	M1200 PE/AC	24	92.50	97.30	1.19	32	125.00	129.57	1.14					38	149.50	153.79	1.11								
	M1200 PP	24	96.00	101.00	1.24	32	128.00	132.62	1.17					38	154.00	158.64	1.15								
	M2500	12	99.36	99.00	1.20	16	132.76	131.58	1.16					20	165.00	163.47	1.18	23	190.50	189.69	1.16	30	!	245.00	1.13
		13	108.00	107.51	1.31	17	!	140.23	1.24					21	!	172.42	1.25								
						18	149.50	147.83	1.30																
	M5000	7	!	117.08	1.44	9	140.00	148.98	1.31					10	156.60	164.39	1.19	12	190.50	197.20	1.21	15	!	244.33	1.13
		8	!	132.75	1.63					11	!	180.31	1.31									16	!	260.39	1.20

LAGGING FOR PLASTIC MODULAR BELTS

Specially produced lagging based on the specification of plastic modular belt manufacturers

Plastic modular belt manufacturer	Series	Lagging																							
		80i				113i				138i				165i				216i/217i							
		Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf	Z	OD mm	PCD mm	Vf				
Intralox	800	7	105.50	116.50	1.43	9	139.36	148.53	1.31					10	156.60	164.39	1.19	12	190.00	196.30	1.20	15	239.00	244.33	1.12
															11	173.20	180.33	1.31					16	255.50	260.39
	1600	13	105.75	105.80	1.30	16	130.50	130.20	1.15					20	163.00	162.37	1.18	23	187.40	186.50	1.14	30	244.30	243.00	1.12
		14	!	114.15	1.40	17	!	138.23	1.22					21	!	170.42	1.23								
							18	144.40	143.94	1.27															
	1800	6	!	127.00	1.56	8	152.00	165.93	1.46					9	174.00	185.66	1.35	10	193.00	202.83	1.24	12	!	245.35	1.13
	1100 FG PE/ AC	20	91.00	98.89	1.21	26	120.60	128.35	1.13					31	!	152.24	1.10	38	!	186.07	1.31				
		24	!	118.45	1.45	27	124.50	132.05	1.16					32	150.00	157.83	1.14								
							30	140.20	148.00	1.30					35	!	171.57	1.24							
	1100 FG PP	20	91.50	99.47	1.22	26	121.40	129.09	1.14					31	!	153.24	1.11	38	!	187.07	1.14				
		24	!	119.45	1.47	27	126.40	134.03	1.18					32	151.00	158.75	1.15								
							30	141.20	148.86	1.31					35	!	172.57	1.25							
	1100 FT PE/ AC	20	94.50	97.25	1.19	26	119.00	126.58	1.12					31	!	150.24	1.09	38	!	184.07	1.12				
		24	!	116.45	1.43	27	128.50	131.04	1.15					32	154.00	156.00	1.13								
							30	143.00	145.54	1.28					35	!	169.57	1.23							
	1100 FT PP	20	94.00	98.31	1.21	26	124.00	127.59	1.12					31	!	152.24	1.10	38	184.00	186.23	1.14				
		24	!	118.45	1.45	27	130.00	132.47	1.17					32	154.40	156.90	1.14								
						30	147.00	149.41	1.32					35	!	171.57	1.24								
Scanbelt	S.25-100 & 600	12	92.20	98.72	1.21	16	123.00	128.15	1.13					19	146.50	151.89	1.10	23	!	181.54	1.13	30	!	241.00	1.11
															20	!	160.37	1.16							
	S.25-800	12	93.60	96.79	1.19	16	125.80	128.34	1.13					19	!	152.32	1.10	23	!	184.54	1.13	30	!	241.00	1.11
															20	157.80	159.81	1.16							
	S.50-100 & 600	7	!	115.08	1.41	9	131.20	146.77	1.29					10	!	162.39	1.18	12	179.00	193.00	1.18	15	!	242.33	1.12
															11	161.48	177.47	1.29					16	244.00	256.29
S.50-800	7	!	114.08	1.40	9	136.00	146.20	1.29					10	!	161.39	1.27	12	185.00	193.19	1.18	15	233.50	240.49	1.11	
														11	168.80	177.50	1.29					16	!	257.39	1.19
Siegling	LM50 Series 3	7	104.00	115.20	1.41	9	140.00	146.19	1.29					10	157.00	161.80	1.17	12	189.00	193.19	1.18	15	!	241.33	1.11
		8	!	129.75	1.59										11	173.00	177.47	1.29					16	251.50	256.29
Uni Chains / Ammeraal	CNB	12	98.00	98.52	1.21	16	131.00	130.71	1.15					19	155.50	154.92	1.12	23	!	186.54	1.14	30	!	243.00	1.12
							18	147.40	146.85	1.29									24	!	194.60	1.19			
	MPB	7	!	117.08	1.44	9	140.00	148.51	1.31					10	156.60	164.39	1.19	12	!	196.28	1.20	15	239.00	244.33	1.12
															11	173.20	180.33	1.31					16	255.50	260.39
	M-SNB	24	91.75	98.27	1.21	32	124.50	130.86	1.15					38	!	154.79	1.12								
	OPB-4	7	!	115.08	1.41	9	144.00	146.19	1.29					10	160.00	161.80	1.17	12	!	194.28	1.18	15	!	242.33	1.12
	OPB-8	7	!	115.08	1.41	9	139.50	146.19	1.29					10	155.50	161.80	1.17	12	!	194.08	1.18	15	!	242.33	1.21
	S-MPB	12	!	100.14	1.23	16	132.00	132.25	1.17					20	165.00	164.93	1.20	23	!	188.54	1.15	30	!	245.00	1.13
								17	!	140.23	1.24					21	173.00	173.11	1.26						
								18	!	148.27	1.31														
X-MPB	6	!	127.00	1.56	8	152	165.93	1.46					9	!	185.66	1.35	10	!	205.49	1.25	12	!	245.35	1.13	

Note on order information, see p 156.



SPROCKETS FOR PLASTIC MODULAR BELTS

Special sprockets based on the specification of modular belt manufacturers

Product Description

- ✓ For driving most common plastic modular belts
- ✓ For cool-running drum motors (see p 90)
- ✓ For standard drum motors with frequency converter (see p 258). The frequency converter should be set up to reduce the power by 18 %.
- ✓ For drum motors with cylindrical shell and key
- ✓ For food processing applications

Note: For s-series drum motors please contact your Interroll customer consultant.

- ✓ Laser cut for excellent fitting accuracy
- ✓ Rust-free with stainless steel sprockets

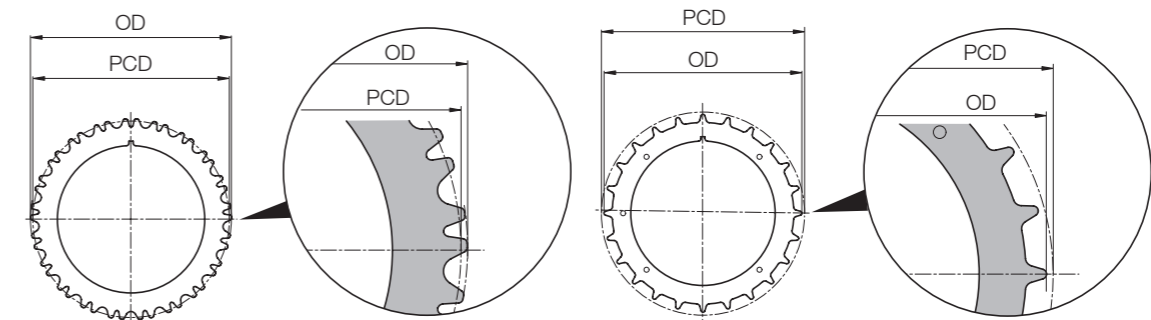
Note: The sprockets have an influence on the outer diameter of the drum motor and on the velocity. The belt pull and speed of the drum motor must be recalculated according to the increased diameter. Refer to the velocity factor (Vf) in the table below.

Technical Data

Material	Steel, stainless steel / Mild steel
Ambient temperature	-30 to +120 °C

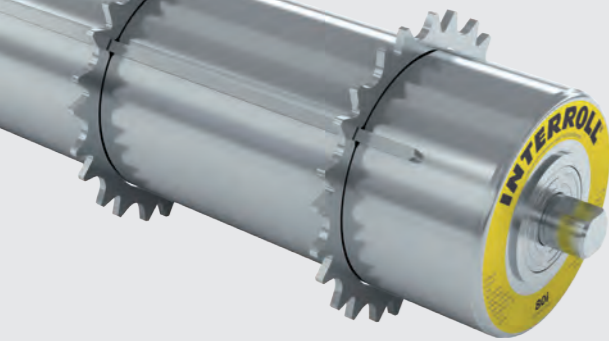
Product Range

To use sprockets, drum motors have to be ordered with cylindrical shell and with key.



- Z Number of teeth
- OD Outer diameter in mm
- PCD Pitch circle diameter in mm
- Vf Velocity factor
- B Width of sprocket in mm
- Rev. Reversible sprocket
- Ref. no. Reference number
- ! Information on request

Modular belt manufacturer	Series	Rev.	Sprocket																									
			80i						113i						138i						165i							
			Z	OD mm	PCD mm	Vf	B mm	Ref. no.	Z	OD mm	PCD mm	Vf	B mm	Ref. no.	Z	OD mm	PCD mm	Vf	B mm	Ref. no.	Z	OD mm	PCD mm	Vf	B mm	Ref. no.		
HabasitLINK	M1220	✓	25	103.70	101.00	1.24	3.00	CW0070	36	150.20	149.80	1.33			3.00	CW0082												
	M1233	✓															40	166.89	162.00	1.18	3.00	CW0154						
	M2520 & M2530	✓	15	123.90	122.00	1.49	12.00	CW0446	19	156.80	154.00	1.36			12.00	CW0453												
			13	107.40	107.00	1.31	4.00	CW0074	17	141.03	139.00	1.23			4.00	CW0090	20	165.53	164.00	1.20	6.00	CW0122	24	198.62	196.00	1.21	6.00	CW0350
			15	123.90	122.00	1.49	4.00	CW0007	19	156.80	154.00	1.36			4.00	CW0024												
	M2540								20	165.10	164.00	1.45			4.00	CW0101												
	M5010	✓								10	157.20	164.00	1.45			5.00	CW0094	11	174.30	180.00	1.31	5.00	CW0036					
	M5020																11	173.80	180.00	1.31	5.00	CW0279						
M5032									10	157.04	164.00	1.45			6.00	CW0116												



SPROCKETS FOR PLASTIC MODULAR BELTS

Special sprockets based on the specification of modular belt manufacturers



Options
Sprockets for
Plastic Modular
Belts

Modular belt manufacturer	Series	Rev.	Sprocket																								
			80i						113i						138i						165i						
			Z	OD mm	PCD mm	Vf	B mm	Ref. no.	Z	OD mm	PCD mm	Vf	B mm	Ref. no.	Z	OD mm	PCD mm	Vf	B mm	Ref. no.	Z	OD mm	PCD mm	Vf	B mm	Ref. no.	
Siegling	CM 25	✓	13	110.00	108.12	1.35	3.00	CW0247																			
	LM 25	✓							17	139.37	136.00	1.20		3.00	CW0099	20	163.49	160.00	1.17	3.00	CW0155						
	LS 50	✓																			12	186.00	195.00	!	6.00	CW0173	
Uni Chains / Ammeraal	810/812/815 Slat Top Chain	✓							25	154.18	153.20	1.36		6.00	CW0093												
	Flex SNB	✓	14	113.80	114.00	1.40	3.00	CW0005	18	146.10	146.00	1.29		3.00	CW0020	21	170.44	170.00	1.24	3.00	CW0049	24	194.80	195.00	1.20	3.00	CW0275
	Light	✓	17	104.97	104.00	1.27	4.00	CW0011	24	147.30	146.00	1.29		4.00	CW0188	27	165.65	219.00	1.60	4.00	CW0124						
	Light EP	✓	9	110.58	111.00	1.36	8.00	CW0013								14	171.36	171.00	1.25	8.00	CW0152	16	195.84	195.00	1.20	8.00	CW0174
	MPB	✓							9	142.50	149.00	1.32		8.00	CW0102							13	205.83	212.00	1.31	8.00	CW0114
	M-SNB & M-QNB	✓	24	99.51	97.00	1.19	5.00	CW0012																			
	M-SNB M2	✓														38	156.50	156.40	1.14	5.00	CW0057						
	OPB	✓							10	160.14	169.00	1.50		8.00	CW0187												
	QNB	✓	15	121.50	122.00	1.49	6.00	CW0010	17	137.46	138.00	1.22		6.00	CW0018	21	170.12	170.00	1.24	6.00	CW0191	24	194.40	195.00	1.20	6.00	CW0255
	S-MPB															20	163.79	162.40	1.19	6.00	CW0234						
	SNB M1	✓	13	107.80	106.00	1.30	3.00	CW0003	18	148.66	146.00	1.29		3.00	CW0022												
	SNB M2	✓	14	119.20	114.00	1.40	3.00	CW0226	17	144.40	138.00	1.22		3.00	CW0017	20	165.70	162.00	1.18	3.00	CW0044	24	199.00	195.00	1.20	3.00	CW0060
		✓							18	152.95	146.00	1.29		3.00	CW0023	21	173.90	170.00	1.24	3.00	CW0123	46	190.50	186.00	1.15	5.00	CW0253
		✓							32	132.68	130.00	1.15		5.00	CW0030												
	✓							38	156.50	154.00	1.36		5.00	CW0032													

Order Information

Different belt variants and materials for standard belt series may affect the operational characteristics and engagement of the belt and drive profile. Although Interroll try to show the most popular basic profile options in this catalogue, manufacturers are offering new variations of their standard belt series. If you are unable to find the required profiled lagging or sprocket you need, or if you have some doubts, please answer the following questions and send them to Interroll with your enquiry:

- Lagging or sprockets preferred?
- Thermoplastic non-modular belt or plastic modular belt?
- Drum motor diameter?
- Required belt speed?
- Belt manufacturer?
- Belt series?
- Belt type and variant?
- Belt material?
- Number of teeth?
- Tooth Pitch?
- Reversible, yes or no?
- Outside diameter (D) in mm?
- Pitch circle diameter (PCD) in mm?
- Sprocket thickness (B) in mm?

BACKSTOPS AND BALANCING

Backstops

Product Description

Backstops prevent roll-back of the belt and load.

- ✓ Single direction inclined belt conveyors
- ✓ For preventing run-back of the belt and load when the power supply is off
- ✓ Bearing runs only in one direction
- ✓ Fitted to the rotor shaft, except 80i
- ✓ Fitted in the end housing on the 80i
- ✓ Not for Interroll Drum Motor 113S
- ✓ No electrical connection necessary
- ✓ Higher holding torque than an electromagnetic brake

The rotational direction of the drum motor with backstop is indicated by an arrow on the bearing housing on the electrical connection side.

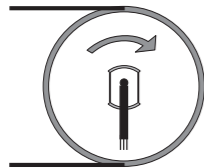


Fig.: Rotation arrow

Product Range

Rotational direction looking from the connector side

Clockwise (standard)
Counter-clockwise

Balancing

Product Description

Static or dynamic balancing of the drum motor reduces vibration and out of balance running for sensitive high speed or dynamic weighing applications. Static balancing is applied to the drum motor shell only and the effective result must be tested for each application. Dynamic balancing includes the drum motor rotor, shell and end housings and the effective balance is given in the table below.

- ✓ High-speed conveyors
- ✓ Weighing equipment
- ✓ For i-series only

Note: Any external modifications, like fixtures, lagging or sprockets, have an impact on the imbalance.

Note: For dynamic balancing please choose only i-series drum motors with stainless steel end housings.

Technical Data

Dynamic balancing	5 g, 8 g, 10 g
Tolerance	±2 g
End housing	Solid stainless steel with van Geffen drill holes
80i end housing	1 oil plug only supplied
Shell lagging material	Only hot vulcanised NBR may be used

Note: Max. balancing length SL ≤ 800 mm.

Applications

Applications

Characteristics

ELECTROMAGNETIC BRAKES

Product Description

Brakes and holds a load according to the stated belt pull.

- ✓ For reversible inclined and declined conveyors
- ✓ For approximate positioning *
- ✓ For reduced stopping times *
- ✓ For stopping and holding loads

* For faster stopping times and accurate positioning, please use a frequency converter with braking function and if necessary an encoder with feed back control.

- ✓ Low-noise
- ✓ Low-wear
- ✓ Operated by rectifier (see p 162)
- ✓ Applied to the drum motor's rotor shaft
- ✓ When power to the motor is disrupted the brake will close (the brake is naturally closed)

The brake opening and closing response time can vary substantially depending on the following:

- Type and viscosity of the oil
- Level of oil in the drum motor
- Ambient temperature
- Internal motor working temperature
- Switching at input (AC-switching) or at output (DC-switching)

The difference between AC switching and DC switching is shown in the following table:

	AC switching	DC switching
Closing response time	slow	fast
Brake voltage	approx. 1 V	approx. 500 V

Note: For DC-switching, the switching contacts must be protected against damage due to high voltage.

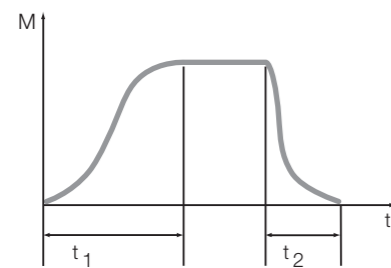


Fig.: Closing and opening response time

- t_1 Closing response time
- t_2 Opening response time

The rated brake torque is strongly influenced by the operating conditions within the drum motor (operation in oil at high temperatures) and the ambient temperature. For reasons of safety, the brake torque given in the data sheets should be reduced by 50 % for load calculations.

Product Range

Drum Motor	Rated torque M	Rated power	Rated voltage	Rated current	DC switching t_1	AC switching t_1	Opening delay time t_2
	Nm	W	V DC	A	ms	ms	ms
80i	1.1	12	24	0.5	13	80	20
			104	0.12	13	80	20
113i	6	24	24	1.00	26	200	30
			104	0.23	26	200	30
			207	0.12	26	200	30
138i	6	24	24	1.00	26	200	30
			104	0.23	26	200	30
			207	0.12	26	200	30
165i to 216i	12	33	24	1.38	46	260	40
			104	0.32	46	260	40
			207	0.16	46	260	40
217i	26	50	104	0.48	60	500	60
			207	0.24	60	500	60
315i	50	70	104	0.67	100	700	80
			207	0.34	100	700	80

Applications

Characteristics

Response time

Reduction of
brake torque

RECTIFIERS

The rectifier operates the electromagnetic brake

Options
Rectifiers

Product Description

- ✓ Drum motors with electromagnetic brake (see p 160)
- ✓ Applications with frequent starts and stops
- ✓ Positioning applications
- ✓ Half-wave and bridge rectifier for standard applications
- ✓ External component, must be covered or installed in a control box as close to the brake as possible.
- ✓ Fast acting and multiswitch rectifier for applications in which short opening delay times are necessary
- ✓ Not for S-series

Product Range

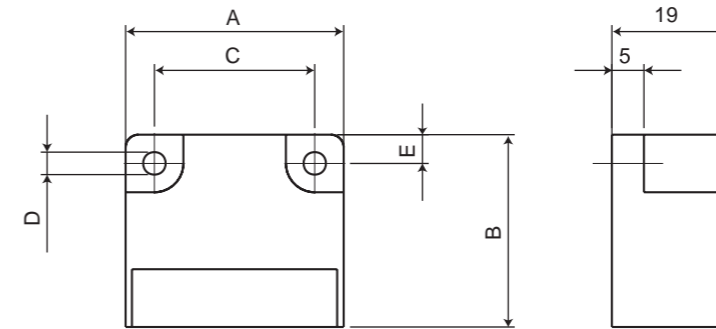
Input voltage V AC	Brake voltage V DC	Starting voltage V DC	Holding voltage V DC	Version	Application	Reference number
115	104	104	52	Fast acting rectifier	A B	BC0005
230	207	207	104	Fast acting rectifier	A B	BC0005
230	104	104	104	Half wave rectifier Bridge rectifier	A B	BC0002
230	104	190	52	Phase rectifier	A	BC0004
400	104	180	104	Multiswitch	A B	BC0010
460	104	180	104	Multiswitch	A	BC0010
460	207	207	207	Half wave rectifier Bridge rectifier	A B	BC0003

A Continuous running application
B Frequent start/stop application

Using a fast acting rectifier or a phase rectifier will save energy because the holding voltage is lower than the starting voltage.

Dimensions

Half-wave rectifier and bridge rectifier



Reference number	A mm	B mm	C mm	D mm	E mm
BC0002	34	30	25	3.5	4.5
BC0003	64	30	54	4.5	5

Phase rectifier

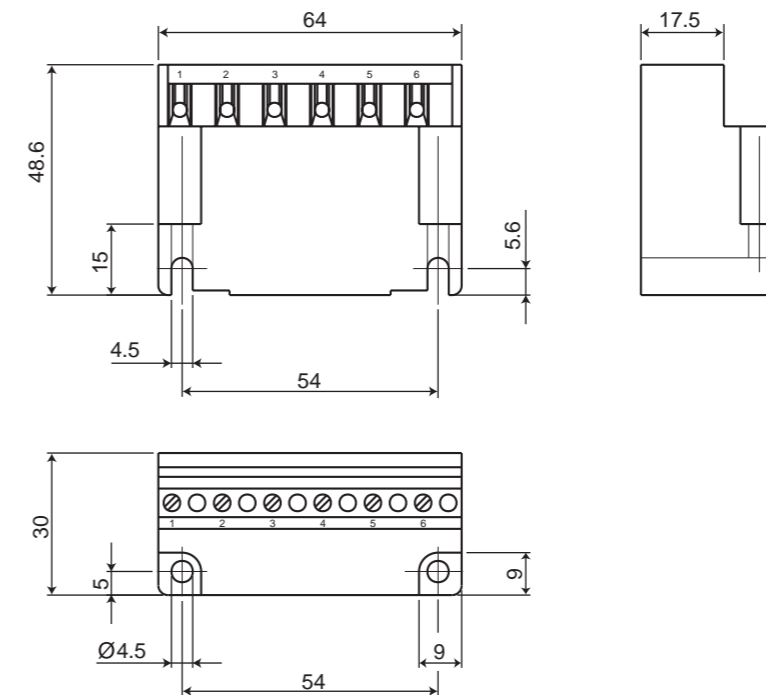


Fig.: BC0004

Applications

Characteristics

RECTIFIERS

The rectifier operates the electromagnetic brake

Fast acting rectifier

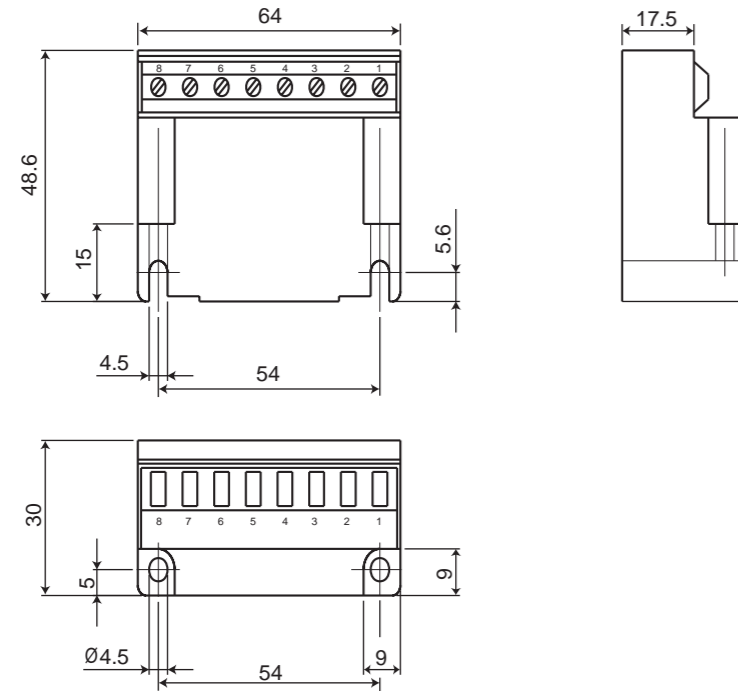


Fig.: BC0005

Multiswitch

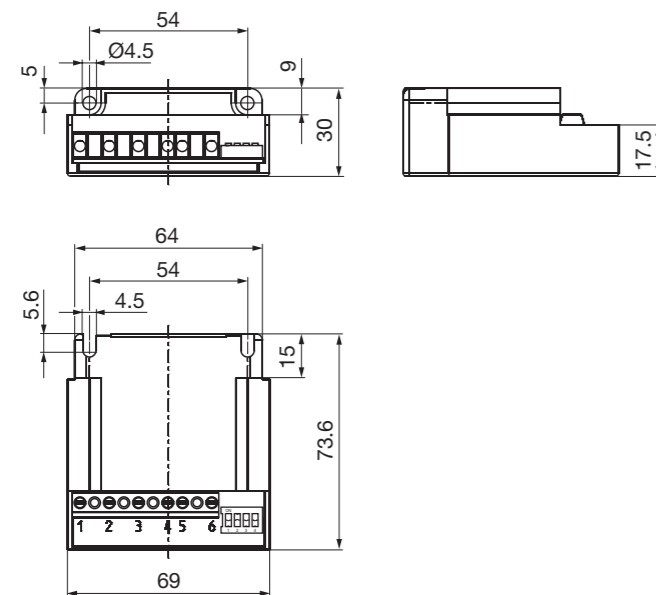


Fig.: BC0010

Connection Diagram

Interroll recommends installing a switch between (3) and (4) for fast brake release.

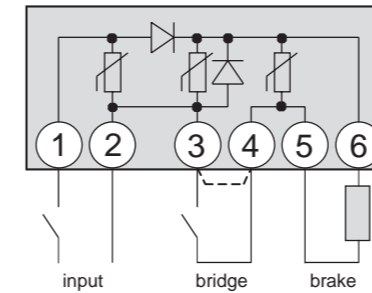


Fig.: Half-wave rectifier

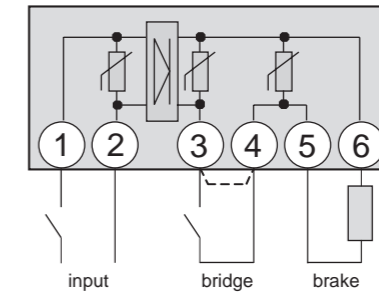


Fig.: Bridge rectifier

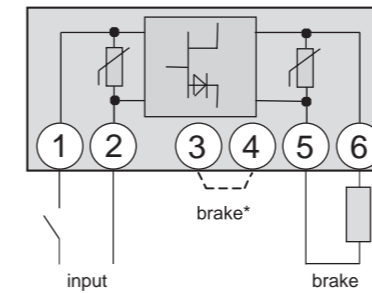


Fig.: Phase rectifier

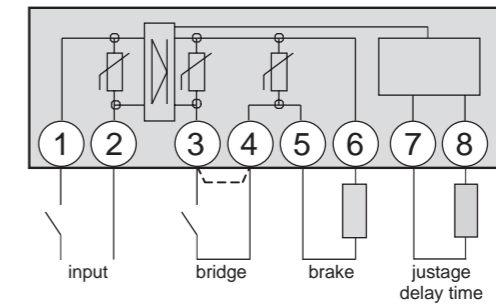


Fig.: Fast acting rectifier

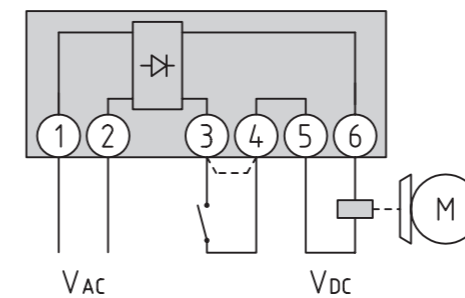


Fig.: Multiswitch

LOW RESOLUTION ENCODERS

Accurate monitoring of conveying data

Options
Encoders

Product Description

- ✓ For applications which require control and monitoring of the speed, direction, and position of the drum motor belt or load
- ✓ For i-series only
- ✓ Supplies low resolution signals to an external decoder and control unit
- ✓ Cannot be combined with a brake
- ✓ Embedded in the rotor bearing

Technical Data

Rated voltage	4.5 to 24 V DC
Max. operating current	8 to 10 mA
Max. rated output current	20 mA
High voltage	> 3.5 V
Low level voltage	< 0.1 V

The resolution INC (increments per drum revolution) depends on encoder type and drum motor size. The INC can be calculated as follows:

$$INC = p \times i$$

- i Gear ratio of drum motor
- p Number of encoder pulses per rotor revolution

Product Range

Drum Motor	Encoder type	Bearing design	Pulses per rotor revolution p
80i to 138i	EB-6202-SKFHTTLOC-32-N-0,5	6202	32
165i to 217i	EB-6205-SKFHTTLOC-48-N-0,5	6205	48

Note: For 80i with encoder the drum motor will be supplied with 25 mm diameter shafts and one supply voltage.

Connections

Available only with screened cables:

Cable	Signal
Green	A
White	B
Yellow	5 - 24 V
Brown	0 V

The encoder has open collector NPN transistor outputs. When connected to the input of a control interface the required load resistances (R) have to be used. The load resistances are stated in the above table. When using different interfaces or, should you have any doubts, please refer to Interroll or to a local electronic specialist.

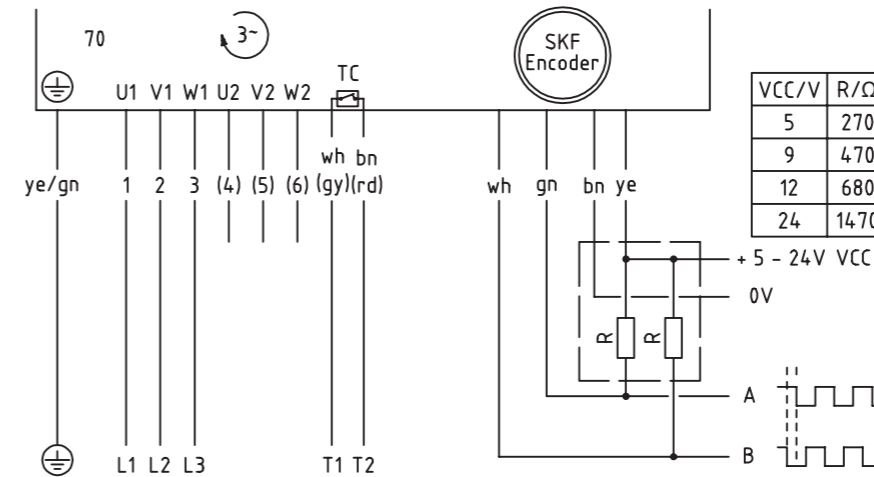


Fig.: Connection diagram

Interroll recommends the use of an Opto-coupler for the following reasons:

- To protect the encoder
- To enable connection to other levels such as PNP
- To get the maximum potential between high and low signal

Control
interface

Diagrams

Application

Characteristics

Resolution INC

Cables

HIGH RESOLUTION ENCODERS

Accurate monitoring of conveying data

Options
Encoders

Product Description

- ✓ For applications which require control and monitoring of speed, direction, and position of the drum motor belt or load
- ✓ For i-series only
- ✓ Supplies high resolution signals to an external decoder and control unit
- ✓ Cannot be combined with a brake
- ✓ Embedded in the rotor bearing

The resolution INC (increments per drum revolution) can be calculated as follows:

$$INC = p \times i$$

- i Gear ratio of drum motor
- p Number of encoder pulses per rotor revolution

Product Range

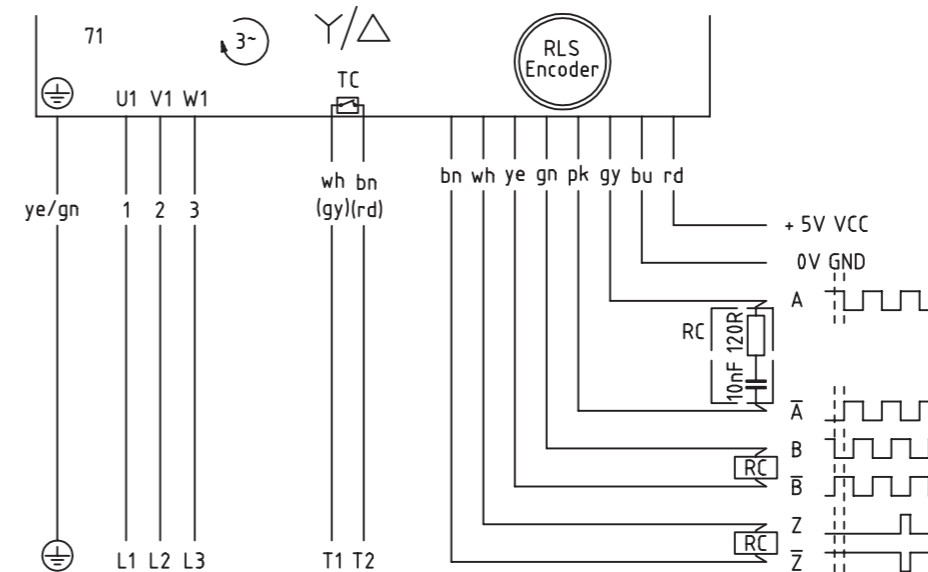
Drum Motor	Encoder type	Rated voltage	Max. operating current	Pulses per rotor revolution	Max. cable length	Precision
		V DC	mA	p	m	°
80i to 217i	RS422A 5V	5	50	1,024	50	0.5

Note: Other resolutions are available on request.

Connections

Available only with screened cables:

Cable	Signal
Red	5 V
Blue	0 V
Grey	A
Pink	\bar{A}
Green	B
Yellow	\bar{B}
White	Z
Brown	\bar{Z}



Connection
diagram