SIREM
Innovation driver

Designed and made in FRANCE

Drum motors catalog for Conveyors

Motorized drum for the conveying by SIREM

The belt conveyor is a handling or carrying device for the transportation of unit loads. Drum motors are specially devised for powering the belt conveyors, whereas motor-driven rollers drive loads without belt.

These motorizations are extremely compact, easy to set up, without any maintenance and impervious to the substances (dust, water, oil, grease …) detrimental to classic motorizations.

Two lines of drum-motors are offered to meet everybody's needs:

- Line High Industry for demanding industrial applications
- Line Low Industry for light applications

The choice between a drum motor and a motor-driver roller can optimize the space around the conveyors since our products can perfectly be integrated into the frames. Our motors offer solutions for all the operating cycles, intermittent and continuous.

SIREM also provides customized motor-cartridges for rollers and drums in diameter 89 and 110 mm.

Choose your motorized drum

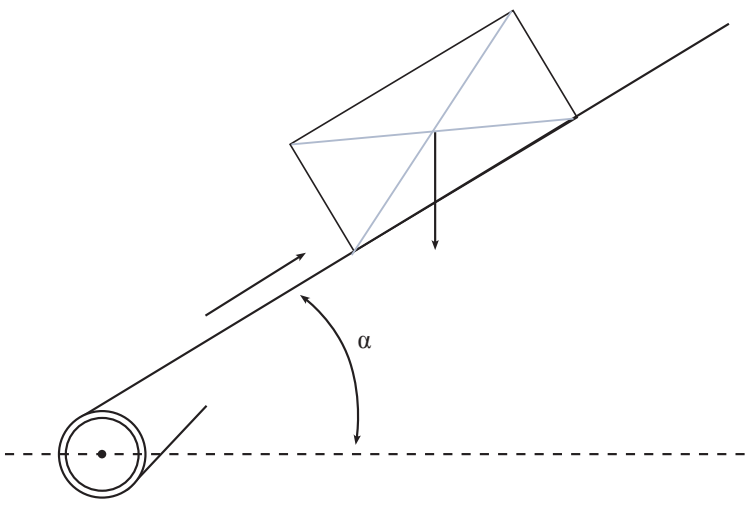
	Speed (m/s)	Torque (N.m)	Load (Kg)
Drum Ø72 mm High Industry	2.6 to 40.4	1.3 to 21.2	8 to 137
Drum Ø72 mm Low Industry	2.6 to 40.4	1.3 to 21.2	4 to 60
Rouleau Ø72 mm	2.6 to 40.4	1.5 to 21.2	8 to 137

Installation and using recommendations

To adjust the tension of the conveyor belt :

Switch on the conveyor with the maximum load on the belt. Tight the belt until the load moves. Finish the adjustment by the tightening of screws while keeping the belt centered.

Angle of the belt :



Speed (m/min)	Tension of the belt for 10,000 hours of working (Newton)	
	L<800m	L>800mm
3 to 5	1200	2700
6 to 12	850	2000
18 to 47	700	1500

Angle in degree	0	5	10	20	30	45
% of the conveyor load	-	72	64	50	34	16

MOTORIZED DRUM - Ø72 high industry

from 2.6 to 40.4 m/min - 1.3 to 21.2 N.m

HIGH INDUSTRY VERSION : STEEL GEARBOX, ALUMINIUM FLANGES
MAXIMUM LOAD UNTIL 137 KG
3 TYPES OF MOTORIZATION : STANDARD, COLD, REINFORCED
SINGLE AND THREE PHASE MOTORS

TECHNICAL FEATURES :

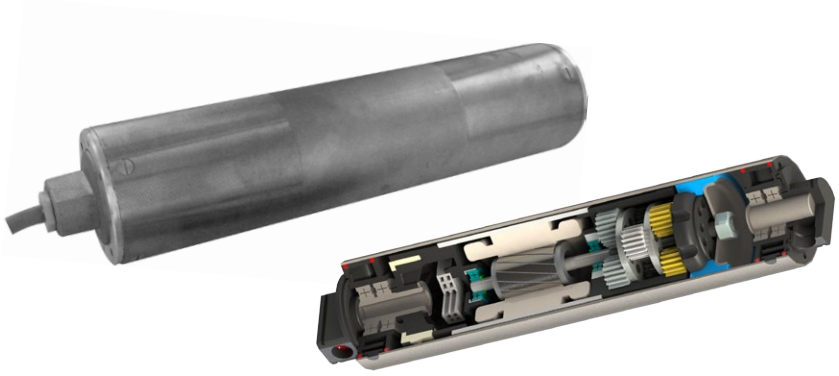
- Asynchronous motor
- Permanently lubricated
- Thermal cut-out
- Aluminium end fitting
- Steel tube
- Working with frequency convertor from 0 to 75HZ under 230V only
- Class F insulation
- IP66 protection
- S3 or S1 service class
- Working temperature : -10°C to +40°C

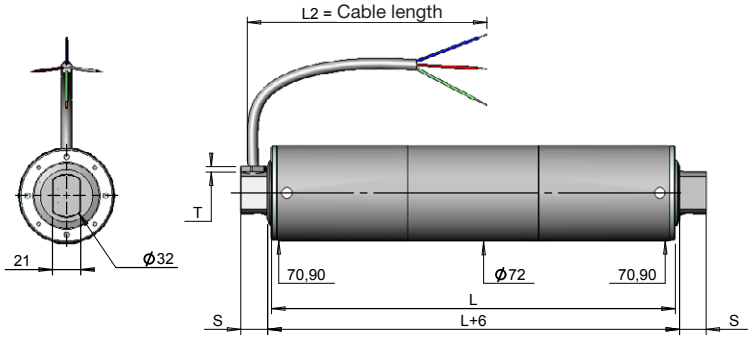
OPTIONS AVAILABLE ON DEMAND :

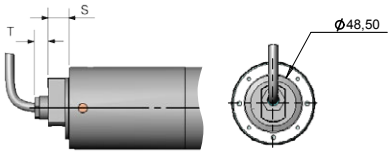
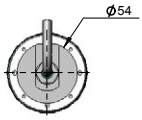
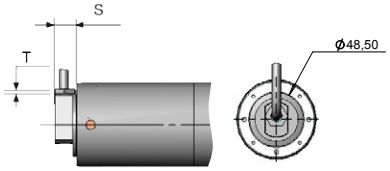
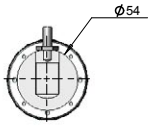
- Stainless steel or zinc plated tube
- Specific coating
- Geometry of tube : cylindric, biconic, bi-tapered
- Drum length
- Cable length
- Voltages and frequencies on request
- Brake
- Specific connectors and end fittings
- Absorbing spacers

COMPLY WITH STANDARDS :

- EN 60335-1
- EN 60034-1

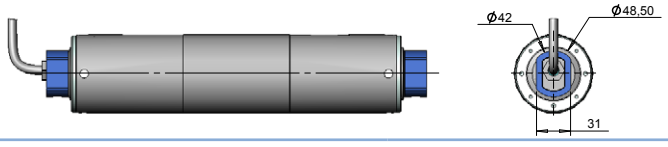




	Aluminium end fittings S = 20 mm / T = 6 mm maxi	Plastic end fittings (in option) S = 15 mm T = 6 mm maxi
Axial output		
Radial output		

S: End fitting width T: Nut width + Tightening looseness

Absorbing spacers with axial output
S = 20 mm / T = 6 mm maxi



MOTORIZED DRUM - Ø72 high industry

from 2.6 to 40.4 m/min - 1.3 to 21.2 N.m

Ø and Type	Output power (W)	Linear speed m/s	Linear speed m/min	Gearbox ratio	Torque (Nm)	Maximum load (kg)	Tractive effort (N)	Available tube length (mm)	Service class*	Intensity Capacitor (µF)	Intensity and Voltage
Ø72 STANDARD VERSION	Motors 25 W / 230V - 50Hz									Single phase	Three phase
	20W	0,04	2,6	1/216	17,7	114	491	de 250 à 1000	S3 Intermittent 50% on a 6 seconds cycle maximum	0,23A 2 µF (CM2 type)	0,31A under 230V 0,18A under 400V (CT2 type)
		0,06	3,7	1/152	12,5	81	347				
		0,07	4,2	1/135	11,1	71	307				
		0,09	5,3	1/107	8,8	57	245	250			
		0,10	6,0	1/95	7,8	50	217				
		0,11	6,7	1/84	6,9	45	192				
		0,12	7,4	1/76	6,2	40	173				
		0,14	8,4	1/67	5,5	36	153				
		0,16	9,4	1/60	4,9	31	135				
		0,18	10,7	1/53	4,3	28	120				
		0,26	15,7	1/36	3,1	20	86				
		0,37	22,6	1/25	2,2	14	61				
		0,52	31,4	1/18	1,6	11	45				
		0,59	35,3	1/16	1,5	9	40				
		0,67	40,4	1/14	1,3	8	35				
	Motors 35 W / 230V - 50Hz									Single phase	Three phase
	35W	0,09	5,5	1/107	12,3	80	343	300 350 400 450 500 600 800 1000 >1000 nous consulter	S1 continued	0,35A 2 µF (BM2 type)	
		0,10	6,2	1/95	10,9	71	303				
		0,11	7,0	1/84	9,7	62	269				
		0,12	7,7	1/76	8,7	56	242				
		0,14	8,8	1/67	7,7	50	214				
		0,16	9,8	1/60	6,8	44	190				
		0,18	11,1	1/53	6,0	39	168				
		0,26	16,3	1/36	4,3	28	121				
		0,37	23,5	1/25	3,1	20	85				
		0,52	32,7	1/18	2,3	15	64				
		0,59	36,8	1/16	2,0	13	56				
		0,67	42,0	1/14	1,8	11	49				
	Motors 50 W / 230V - 50Hz									Single phase	Three phase
	50W	0,09	5,3	1/107	17,6	114	490	300 350 400 450 500 600 800 1000 >1000 nous consulter	S3 Intermittent 50% on a 6 seconds cycle maximum	0,4A 3 µF (BM2 type)	0,45A under 230V 0,26A under 400V (BT2 type)
		0,10	6,0	1/95	15,6	101	433				
		0,11	6,7	1/84	13,8	89	384				
		0,12	7,4	1/76	12,4	80	346				
		0,14	8,4	1/67	11,0	71	306				
		0,16	9,4	1/60	9,8	63	271				
		0,17	10,7	1/53	8,6	56	240				
		0,26	15,7	1/36	6,2	40	172				
		0,37	22,6	1/25	4,4	28	122				
		0,52	31,4	1/18	3,3	21	91				
		0,59	35,3	1/16	2,9	19	81				
		0,67	40,4	1/14	2,5	16	71				
Ø72 COLD VERSION	Motors 30 W / 230V - 50Hz										Three phase
	30W	0,09	5,3	1/107	10,6	68	294	300 350 400 450 500 600 800 1000 >1000 nous consulter	S1 continued		0,26A under 230V 0,15A under 400V (Cold BT2 type)
		0,10	6,0	1/95	9,4	60	260				
		0,11	6,7	1/84	8,3	54	230				
		0,12	7,4	1/76	7,5	48	207				
		0,14	8,4	1/67	6,6	43	184				
		0,16	9,4	1/60	5,9	38	163				
		0,18	10,7	1/53	5,2	33	144				
		0,26	15,7	1/36	3,7	24	103				
		0,37	22,6	1/25	2,6	17	73				
		0,52	31,4	1/18	2,0	13	54				
		0,59	35,3	1/16	1,7	11	48				
		0,67	40,4	1/14	1,5	10	42				
Ø72 REINFORCED VERSION	Motors 70 W / 230V - 50Hz									Single phase	
	70W	0,11	6,7	1/84	19,3	125	537	300 350 400 450 500 600 800 1000 >1000 nous consulter	S3 Intermittent 50% on a 6 seconds cycle maximum	0,6A 6 µF (BM2 type)	
		0,12	7,4	1/76	17,4	112	484				
		0,14	8,4	1/67	15,4	100	428				
		0,16	9,5	1/60	13,7	88	379				
		0,18	10,7	1/53	12,1	78	336				
		0,26	15,7	1/36	8,3	53	229				
		0,37	22,3	1/25	5,8	38	162				
		0,52	31,4	1/18	4,1	27	115				
		0,59	35,3	1/16	3,7	24	102				
		0,67	40,4	1/14	3,2	21	89				
	Motors 80 W / 230V - 50Hz										Three phase
	80W	0,14	8,4	1/67	17,6	102	439	300 350 400 450 500 600 800 1000 >1000 nous consulter	S3 Intermittent 50% on a 6 seconds cycle maximum		0,55A type 230V (BT2 type)
		0,16	9,7	1/60	15,7	91	393				
		0,18	10,7	1/53	13,9	81	347				
		0,26	15,7	1/36	9,4	55	236				
		0,38	22,6	1/25	6,5	38	164				
		0,52	31,4	1/18	4,7	27	118				
		0,59	35,3	1/16	4,2	24	105				
		0,67	40,4	1/14	3,7	21	92				

* Reduce the load of 50% if th e drum motoro is used in service class S1 instead of S3

* Reduce the load of 50% if th e drum motoro is used in service class S1 instead of S3

STANDARD VERSION

Drum motors are particulary well adapt for the belt conveyors :

- Steel planetary gear
- Belt always centered thanks to a specific machining

COLD VERSION

- Allows a continued service class S1
- The drum motor does not warm the belt in contact
- Is recommended for high temperature environments
- Is recommended for the conveying of temperature sensitive products (food industry, ...)
- Is compulsory if the tube has got a coating

REINFORCED VERSION

Increase of the available power and torque for the conveying of loads

- S3 service class of 50% on a 6 seconds cycle

The indicated values are given for a 2 meters long conveyor.
The indicated values are given for a 2 meters long conveyor. Without LOAD

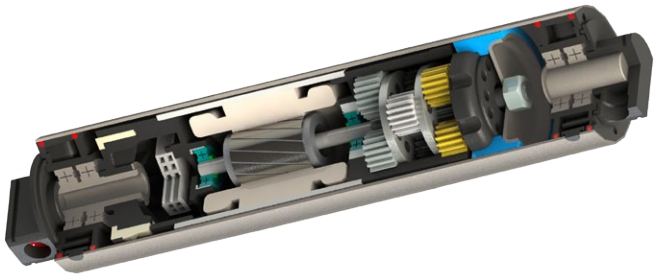
MOTORIZED DRUM - Ø72 low industry

from 2.6 to 40.4 m/min - 1.3 to 21.2 N.m

LOW INDUSTRY VERSION : PLASTIC GEARBOX, PLASTIC FLANGES
MAXIMUM LOAD UNTIL 60 KG
2 TYPES OF MOTORIZATION : STANDARD AND COLD
SINGLE AND THREE PHASE MOTORS

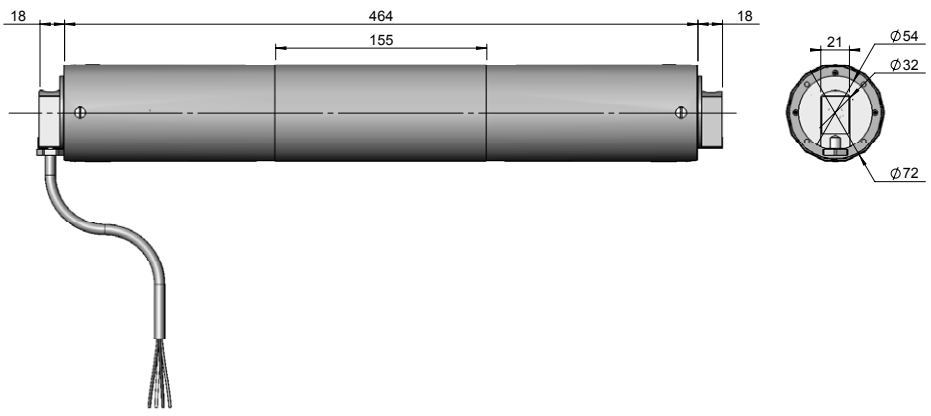
TECHNICAL FEATURES :

- Asynchronous motor
- Permanently lubricated
- Thermal cut-out
- Plastic end fittings
- Steel tube
- Working with frequency convertor from 0 to 75Hz under 230V only
- Class F insulation
- IP44 protection
- S3 service class
- Working temperature : -10°C to +40°C



OPTIONS AVAILABLE ON DEMAND :

- Zinc plated tube
- Specific coating
- Geometry of tube : cylindric, biconic, bi-tapered
- Drum length
- Cable length
- Voltages and frequencies on request
- Brake
- Specific connectors and end fittings



COMPLY WITH STANDARDS :

- EN 60335-1
- EN 60034-1

MOTORIZED DRUM - Ø72 low industry

from 2.6 to 40.4 m/min - 1.3 to 21.2 N.m

Ø et Type	Output power (W)	Linear speed m/s	Linear speed m/min	Gearbox ratio	Torque (Nm)	Maximum load (kg)	Tractive effort (N)	Available tube length (mm)	Service class*	Intensity Capacitor (µF)	Intensity and Voltage
Ø72 STANDARD VERSION	Motors 25 W / 230V - 50Hz									Single phase	Three phase
	20W	0,04	2,6	1/216	17,7	57	245	de 250 à 600	S3 Intermittent 50% on a 6 seconds cycle maximum	0,23A 2 µF (CM2 type)	0,31A under 230V 0,18A under 400V (CT2 type)
		0,06	3,7	1/152	12,5	40	173				
		0,07	4,2	1/135	11,1	35	153				
		0,09	5,3	1/107	8,8	28	122	250			
		0,10	6,0	1/95	7,8	25	108				
		0,11	6,7	1/84	6,9	22	96				
		0,12	7,4	1/76	6,2	20	86				
		0,14	8,4	1/67	5,5	18	76				
		0,16	9,4	1/60	4,9	15	67				
		0,18	10,7	1/53	4,3	14	60				
		0,26	15,7	1/36	3,1	10	43				
		0,37	22,6	1/25	2,2	7	30				
		0,52	31,4	1/18	1,6	5	22				
		0,59	35,3	1/16	1,5	4,5	20				
		0,67	40,4	1/14	1,3	4	17				
	Motors 50 W / 230V - 50Hz									Single phase	Three phase
	50W	0,09	5,3	1/107	17,6	57	245	300 350 400 450 500 600	S3 Intermittent 50% on a 6 seconds cycle maximum	0,4A 3 µF (BM2 type)	0,45A under 230V 0,26A under 400V (BT2 type)
		0,10	6,0	1/95	15,6	50	216				
		0,11	6,7	1/84	13,8	45	192				
		0,12	7,4	1/76	12,4	40	173				
		0,14	8,4	1/67	11,0	35	153				
		0,16	9,4	1/60	9,8	31	135				
		0,17	10,7	1/53	8,6	28	120				
		0,26	15,7	1/36	6,2	20	86				
		0,37	22,6	1/25	4,4	14	61				
		0,52	31,4	1/18	3,3	11	45				
		0,59	35,3	1/16	2,9	9	40				
		0,67	40,4	1/14	2,5	8	35				
Ø72 COLD VERSION	Motors 30 W / 230V - 50Hz										Three phase
	30W	0,09	5,3	1/107	10,6	34	147	300 350 400 450 500 600	S1 continued «short»		0,26A under 230V 0,15A under 400V (Cold BT2 type)
		0,10	6,0	1/95	9,4	30	130				
		0,11	6,7	1/84	8,3	27	115				
		0,12	7,4	1/76	7,5	24	103				
		0,14	8,4	1/67	6,6	21	92				
		0,16	9,4	1/60	5,9	19	81				
		0,18	10,7	1/53	5,2	16	72				
		0,26	15,7	1/36	3,7	12	51				
		0,37	22,6	1/25	2,6	8	36				
		0,52	31,4	1/18	2,0	7	27				
		0,59	35,3	1/16	1,7	5,5	24				
		0,67	40,4	1/14	1,5	5	21				

* Reduce the load of 50% if th e drum motoro is used in service class S1 instead of S3

The indicated values are given for a 2 meters long conveyor. Without LOAD

STANDARD VERSION

Drum motors are particulary well adapt for the belt conveyors :

- Steel planetary gear
- Belt always centered thanks to a specific machining

COLD VERSION

- Allows a continued service class S1
- The drum motor does not warm the belt in contact
- Is recommended for high temperature environments
- Is recommended for the conveying of temperature sensitive products (food industry, ...)
- Is compulsory if the tube has got a coating

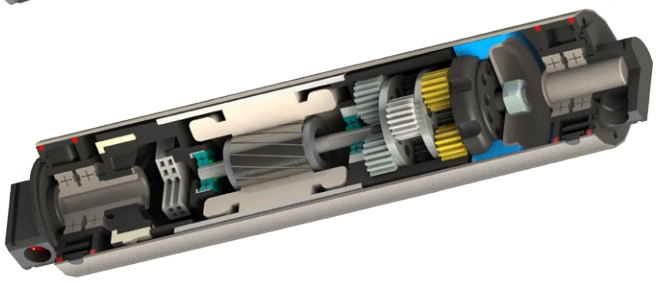
MOTORIZED DRUM - Ø72 high industry

from 2.6 to 40.4 m/min - 1.3 to 21.2 N.m

HIGH INDUSTRY VERSION : STEEL GEARBOX, ALUMINIUM FLANGES
MAXIMUM LOAD UNTIL 137 KG
2 TYPES OF MOTORIZATION : STANDARD AND COLD
SINGLE AND THREE PHASE MOTORS

TECHNICAL FEATURES :

- Asynchronous motor
- Permanently lubricated
- Thermal cut-out
- Aluminium end fitting
- Zinc plated cylindrical tube
- Working with frequency convertor from 0 to 75Hz under 230V only
- Class F insulation
- IP66 protection
- S3 or S1 service class
- Working temperature : -10°C to +40°C

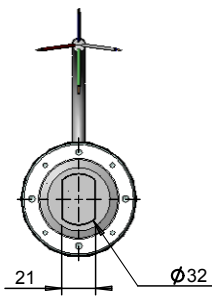


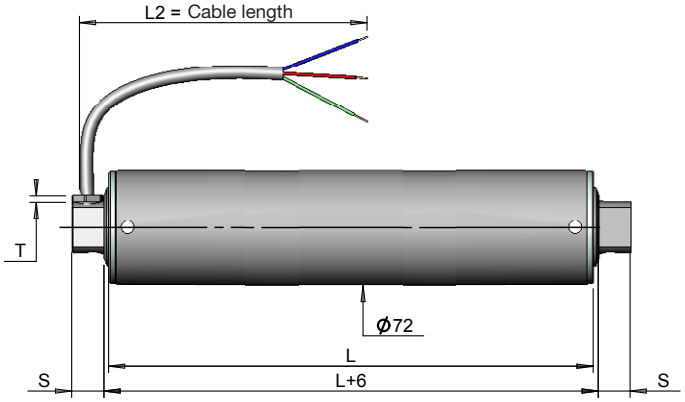
OPTIONS AVAILABLE ON DEMAND :

- Specific coating
- Drum length
- Cable length
- Voltages and frequencies on request
- Brake
- Specific connectors and end fittings

COMPLY WITH STANDARDS :

- EN 60335-1
- EN 60034-1





MOTORIZED DRUM - Ø72 high industry

from 2.6 to 40.4 m/min - 1.3 to 21.2 N.m

Ø and Type	Output power (W)	Linear speed m/s	Linear speed m/min	Gearbox ratio	Torque (Nm)	Maximum load (kg)	Tractive effort (N)	Available tube length (mm)	Service class*	Intensity Capacitor (µF)	Intensity and Voltage
Ø72 STANDARD VERSION	Motors 25 W / 230V - 50Hz									Single phase	Three phase
	20W	0,04	2,6	1/216	17,7	114	491	from 250 to 1000	S3 50% of 6s	0,23A 2 µF (CM2 Type)	0,31A under 230V 0,18A under 400V (CT2 Type)
		0,06	3,7	1/152	12,5	81	347				
		0,07	4,2	1/135	11,1	71	307				
Ø72 COLD VERSION	Motors 30 W / 230V - 50Hz										Three phase
		0,09	5,3	1/107	10,6	68	294	300 350 400 450 500 600 800 1000 >1000 on request	S3		0,26A under 230V 0,15A under 400V (Cold BT2 Type)
		0,10	6,0	1/95	9,4	60	260				
		0,11	6,7	1/84	8,3	54	230				
		0,12	7,4	1/76	7,5	48	207				
		0,14	8,4	1/67	6,6	43	184				
		0,16	9,4	1/60	5,9	38	163				
		0,18	10,7	1/53	5,2	33	144				
		0,26	15,7	1/36	3,7	24	103				
		0,37	22,6	1/25	2,6	17	73				
		0,52	31,4	1/18	2,0	13	54				
		0,59	35,3	1/16	1,7	11	48				
		0,67	40,4	1/14	1,5	10	42				

* Reduce the load of 50% if th e drum motoro is used in service class S1 instead of S3

STANDARD VERSION

Drum motors are particulary well adapt for the belt conveyors :

- Steel planetary gear
- Belt always centered thanks to a specific machining

COLD VERSION

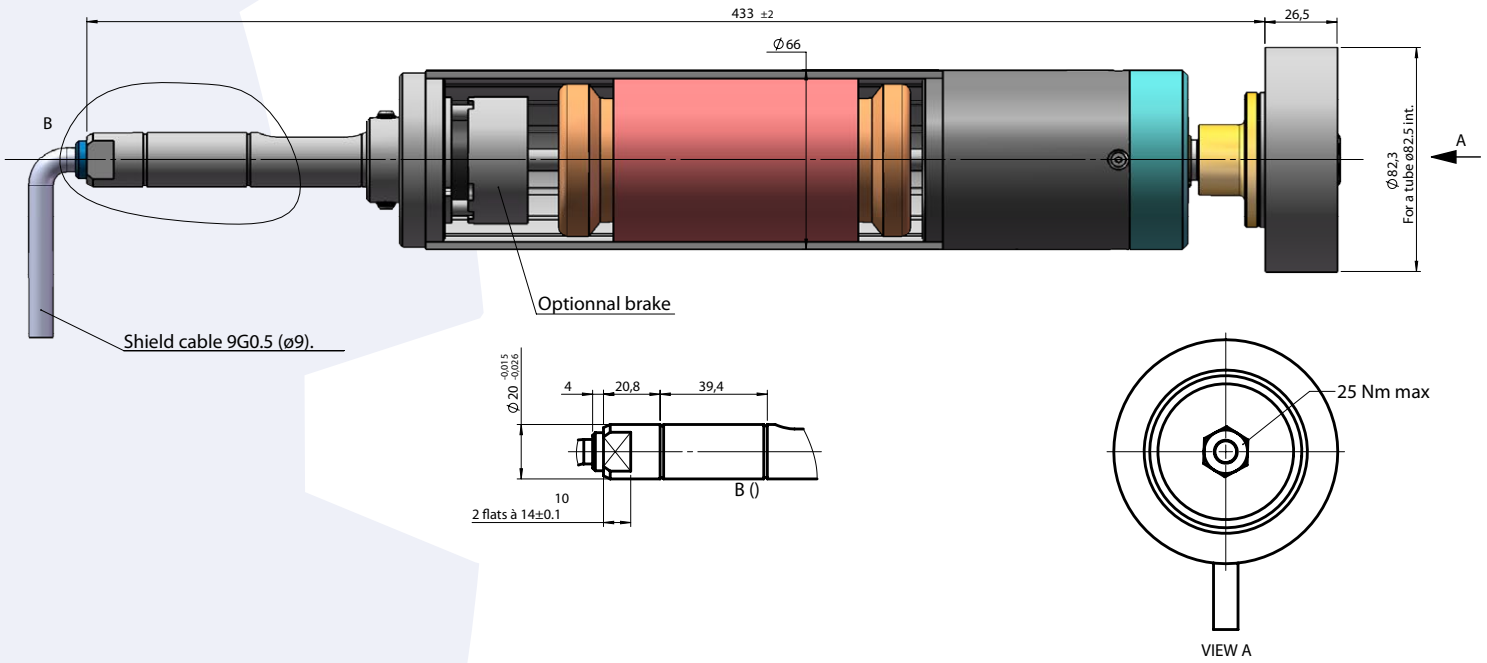
- Is recommended for high temperature environments
- Is recommended for the conveying of temperature sensitive products (food industry, ...)
- Is compulsory if the tube has got a coating

The indicated values are given for a 2 meters long conveyor. Without LOAD

MOTOR-CARTRIDGES - Ø89

50W three phase - 2500 RPM

MOTOR-CARTRIDGES FOR A TUBE WITH Ø82,5 INTERIOR
ASYNCHRONOUS 50W THREE PHASE MOTORIZATION WITH OR WITHOUT BRAKE
DIFFERENT GEARBOX RATIOS AVAILABLE



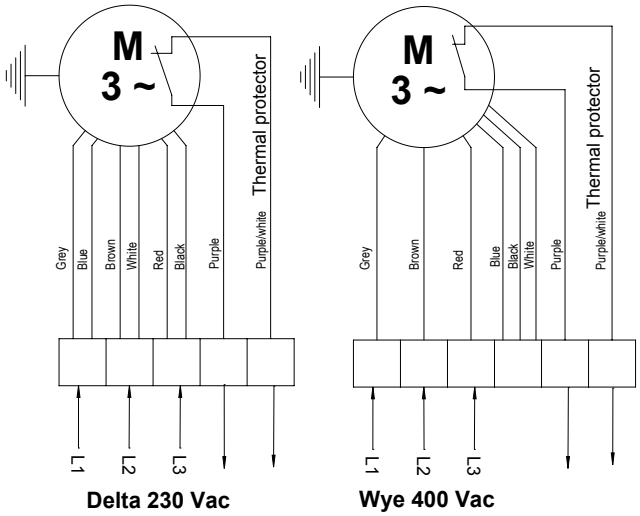
FEATURES (according to CEI 60034-1)

- 2 poles asynchronous three phase motor
- Voltage : 230/400Vac - 50hz
- Nominal power : 50W for 2500 RPM
- Intensity under 230Vac : 0,45A
- Intensity under 400Vac : 0,26A
- S1 service class
- 155°C thermal cut-out
- Gearbox ratios : 1/135, 1/107, 1/95, 1/84, 1/76, 1/67, 1/53

USING CONDITIONS :

- Convertor connection only under 230V
- S1 service class
- Imperative thermal cut-out connection (warranty condition)

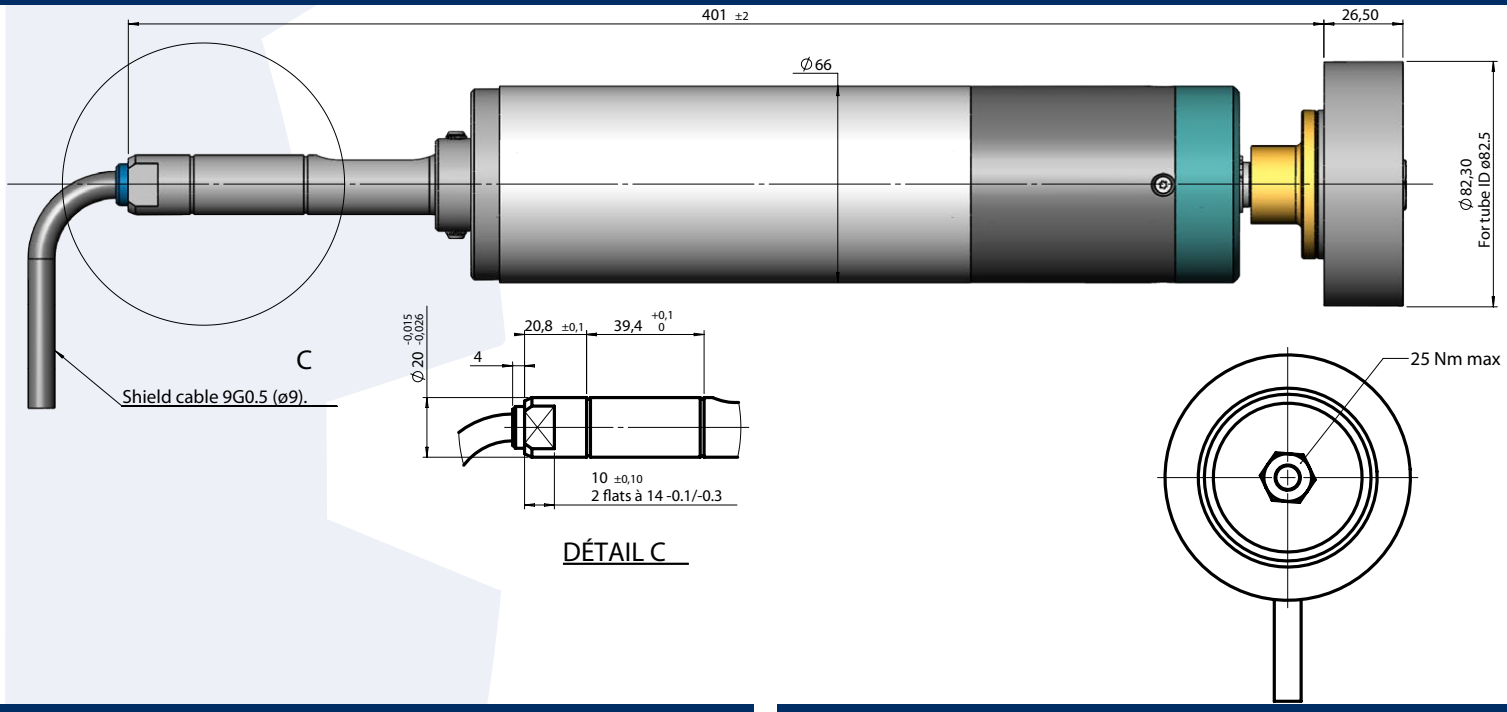
ELECTRICAL CONNECTIONS



MOTOR-CARTRIDGES - Ø89

80W three phase - 2500 RPM

MOTOR-CARTRIDGES FOR A TUBE WITH Ø82,5 INTERIOR
ASYNCHRONOUS 80W THREE PHASES MOTORIZATION
DIFFERENT GEARBOX RATIOS AVAILABLE



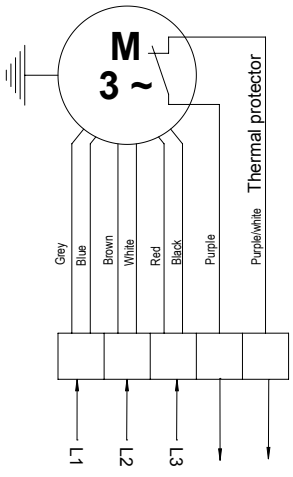
FEATURES (according to CEI 60034-1)

- 2 poles asynchronous three phase motor
- Voltage : 230/400Vac - 50hz
- Nominal power : 80W for 2500 RPM
- Intensity under 230Vac : 0,55A
- Intensity under 400Vac : 0,3A
- S3 service class
- 155°C thermal cut-out
- Gearbox ratios : 1/135, 1/107, 1/95, 1/84, 1/76, 1/67, 1/53

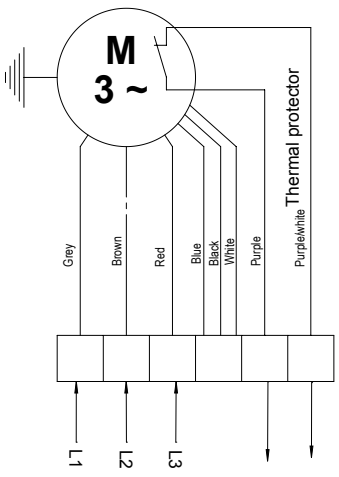
USING CONDITIONS :

- Convertor connection only under 230V
- S3 service classe - 40% with cycles of 3s on and 5s off
- Imperative thermal cut-out connection (warranty condition)

ELECTRICAL CONNECTIONS



Delta 230 Vac

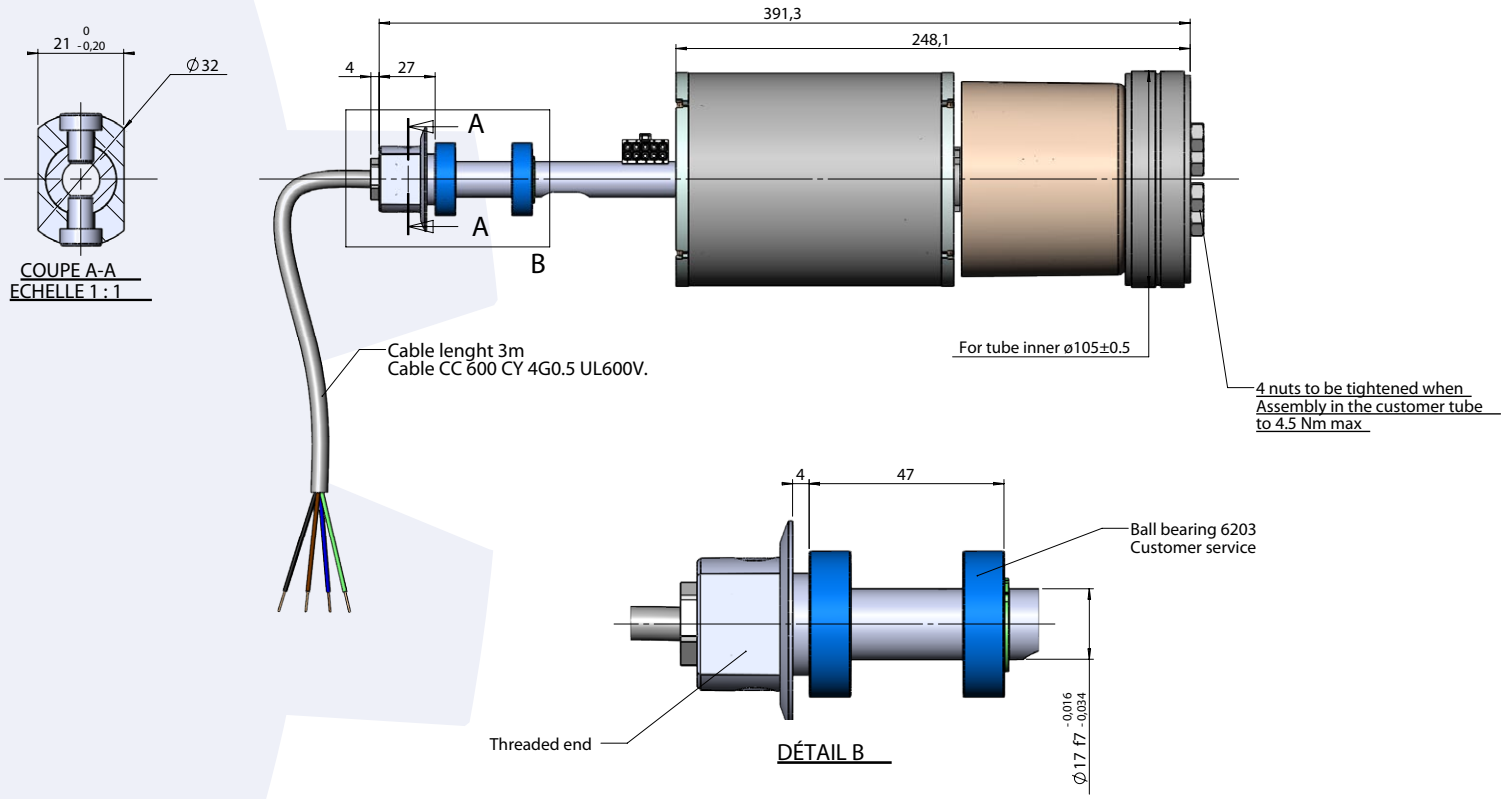


Wye 400 Vac

MOTOR-CARTRIDGES - Ø110

180W three phase - 28 RPM

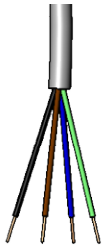
MOTOR-CARTRIDGES FOR A TUBE WITH Ø105 INTERIOR
THREE PHASE MOTORIZATION
S3 SERVICE CLASS



FEATURES (according to CEI 60034-1)

- 2 poles asynchronous three phase motor
- Voltage : 230Vac - 50hz
- Nominal power : 180W
- Intensity under 230Vac : 1,4A
- Gearbox ratio 1/41
- Nominal torque 47Nm
- Speed : 28 RPM
- Service class : S3-10%

ELECTRICAL CONNECTIONS



Rep. câble	Rep. molex	Fils moteur
1	2	Brun
2	9	Rouge
3	7	Gris
V/J	3	V/J

DEFINE YOUR MOTORIZED DRUM

Your application :

- Scrolling billboard ☐
- Checkout ☐
- Belt conveyors ☐
- Others ☐

Describe your application : _____

_____

_____

Characteristic of the conveyor :

- Lenght of the belt (in mm) : _____
- Width of the belt (in mm) : _____
- Masse à tracter (in kg) : _____
- Belt speed (in m/s) : _____
- Usage Continueous ☐

Intermittent ☐ - Stipulate : _____

Environment

- Specific standard ☐

Name the standards : _____

- Specific constraints ☐

Stipulate the constraints : _____

- Protection index IP : _____
- Temperatures : Mini (°C) : _____

Maxi (°C) : _____

- Dusty ☐
- Damp ☐

Tube :

- Tube lenght (in mm) : _____
- Tube diameter (in mm) :
- Ø57 ☐ Ø89 ☐
- Ø72 ☐ Ø110 ☐
- Ø80 ☐ Ø115 ☐

Geometry :

- Bi-tapered ☐ Cylindrical ☐
- Bi-conic ☐ Indifferent ☐

Tube finish :

- Zinc plated ☐ Aluminium ☐
- Non galvanized steel ☐ Indifférent ☐
- Saintless steel ☐
- Specific coating ☐

Stipulate : _____

Power supply :

- Single phase ☐ 24 volts DC ☐ 50 Hz ☐
- Three phase ☐ 110 volts ☐ 60 Hz ☐

230 volts ☐

380 volts ☐

- Frequency inverter ☐

Connector

- Axiale output ☐
- Radial output ☐
- Specific connector ☐

Stipulate : _____

- Cable lenght (in mm) : _____

End fitting

- Plastic ☐ Aluminium ☐
- Space dampers ☐
- None ☐

Quantities : _____ pieces

Complementary informations : _____

_____

_____

_____

SIREM

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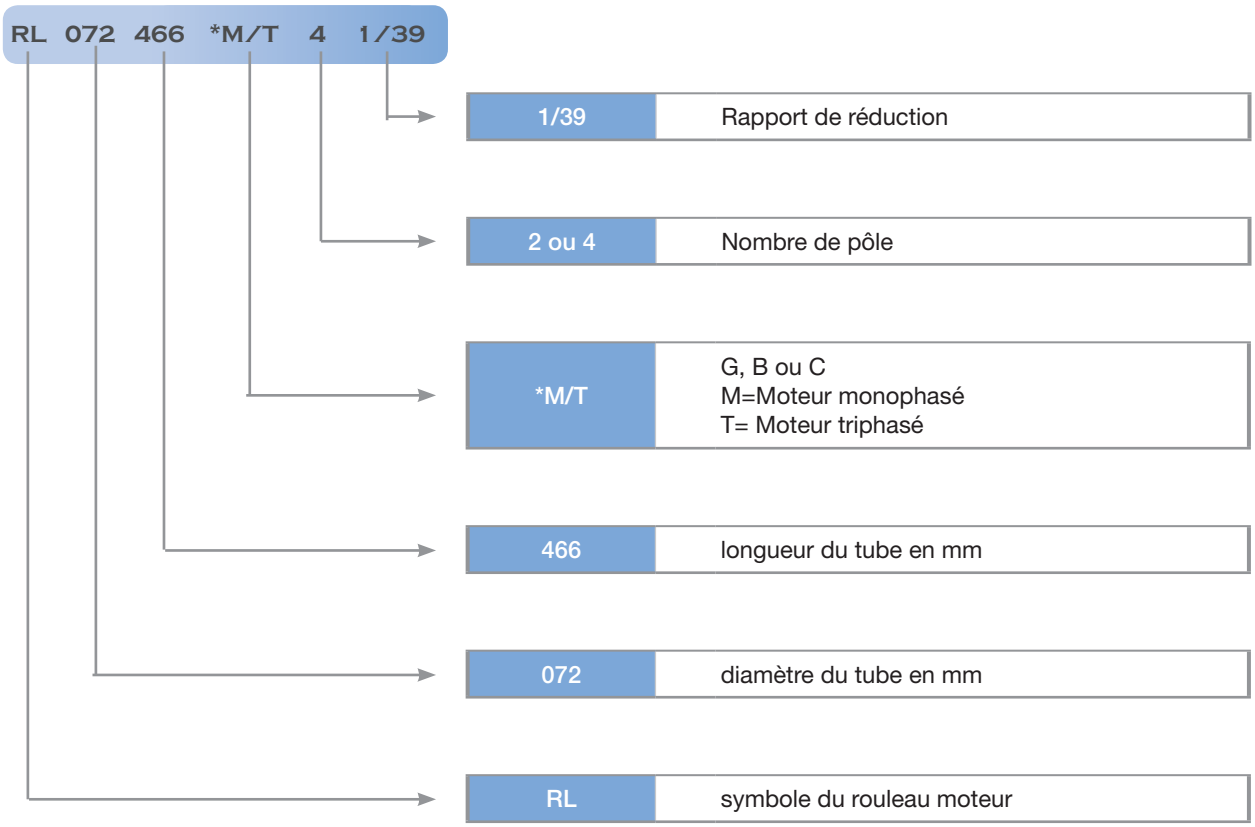
Juin 2016 - SIREM - Conveyors_Catalog_EN_2016_rev1.0

Désignation des moteurs



Courbe caractéristique d'un moteur asynchrone standard SIREM