Product Area

Motor Rollers

We don‘t make the conveyor.

We make it smart.

PULSEROLLER

Catalogue Overview

Intelligent Performance.

PULSEROLLER

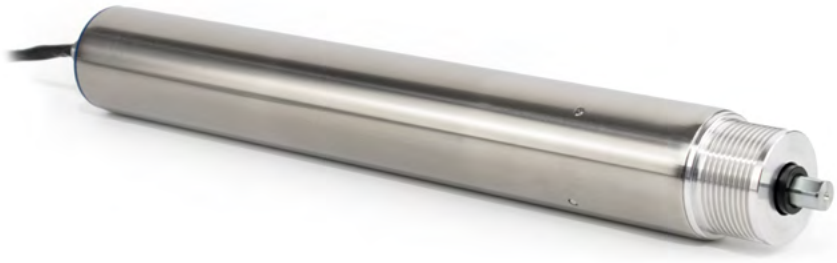
Motor Rollers

Product Overview

Senergy-Ai 24V | 48V

Our reliable Motor Roller with M8-4Pin connection.

Senergy-JST-B 24V

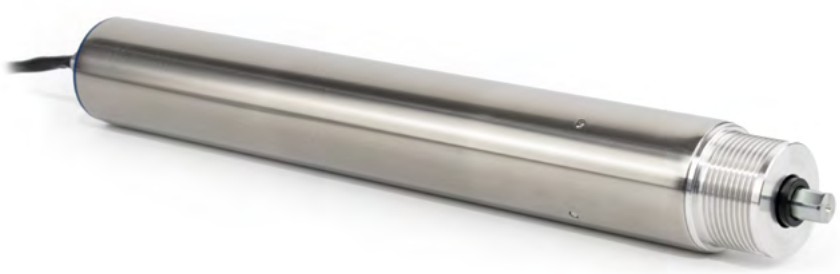


Our Motor Roller for applications requiring a holding brake with JST-9Pin connection

Senergy-IDC

Our Motor Roller with integrated commutation electronics for applications using third-party controls with 5Pin connection.

Holding Brake Roller



Our mechanical Holding Brake Roller for incline and decline without a motor and M8-4Pin connection.

Pallet-Ai 24V

Our Motor Roller especially designed for pallet transport with M8-4Pin connection.

Senergy-Ai
24V

The ingenious motor roller.

The Senergy-Ai 24V from Pulseroller is the standard motorized roller for all 24V conveyor applications.

It offers you reliability, solid mechanical design and the opportunity to control your motor roller with the Pulseroller control of your choice. Due to different configurations and requirements, there is a suitable control for every configuration.

Senergy-Ai is a motorised driven conveyor roller. It has an integrated 24V DC brushless motor with planetary gearbox which provides a most powerful and dynamic solution for the most demanding applications in any intralogistics conveyor installation. Based on a self-contained design, Senergy-Ai offers an incredibly quiet, highly efficient and maintenance free drive unit.

With a long stack high torque motor, Senergy-Ai has a significant high startup torque which is especially useful for roller curves, accumulation sectors and other critical applications. The additional torque offers an excellent advantage for conveyors starting up under load. The robust planetary gear box easily handles the specified torque and is designed for long life operation.

Senergy-Ai is the first external commutated motor roller which is connected to its controller by a reliable and proven M8 standard connector. Hall-Effect signals are coded inside the motor by a Microcontroller, which makes it possible to communicate through only one pin to our external motor controller. Motor temperature is monitored inside the motor and transmitted to the external controller which ensures that the motor temperature does not reach critical limits. Real time temperature measurements have significant benefit over heat detection models because it also takes environmental conditions into consideration.

Serial number, article number and manufacturing date are stored on the internal memory for later retrieval by the external controller.

Benefits

- **Reliable mechanical design**
- **Error-Free gearbox design**
- **Option for precise positioning**
- **Excellent life expectancy**
- **High overload capacity**
- **High acceleration torque**

Features

- **Brushless 24V DC motor**
- **External motor controller**
- **M8-4Pin standard connector**
- **Internal data memory**
- **IP54/IP66/IP69K**
- **Remote control versatility and diagnostics**

M8-4Pin standard connector

M8-4Pin standard connector on ConveyLinx

General Technical Data

- **Voltage:** 24V DC
- **Nominal Output (mech.):** 50W
- **Protection Class:** IP54/IP66/IP69K
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A | BOOST-8: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A | BOOST-8: 8,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** -30°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, Freezer, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm
Ø 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg

Characteristics Data Eco-Mode and Boost-Mode

Speed Code	Gearbox	Max. Speed m/s*		Rated Torque Nm		Acceleration Torque Nm	
		Eco	Boost	Eco	Boost	Eco	Boost
15	3-stage	0,34	0,25	2,7	4,86	4,46	8,02
20		0,46	0,33	1,98	3,56	3,27	5,88
25		0,56	0,42	1,62	2,92	2,67	4,81
35	2-stage	0,83	0,58	1,2	2,16	1,98	3,56
45		1,01	0,75	1,0	1,8	1,65	2,97
60		1,38	1,0	0,73	1,32	1,21	2,18
75		1,69	1,25	0,6	1,08	0,99	1,78
95	1-stage	2,23	1,58	0,52	0,93	0,86	1,54
125		3,04	2,08	0,37	0,67	0,61	1,1
175		4,1	2,92	0,27	0,48	0,44	0,79
215		5,1	3,58	0,22	0,4	0,37	0,66

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Roller Weight Senergy-Ai

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)								
		300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1200mm
ø 50mm	15, 20, 25	2,0	2,2	2,4	2,6	2,7	2,9	3,1	3,3	3,7
	35, 45, 60, 75	2,0	2,1	2,3	2,5	2,7	2,9	3,1	3,2	3,6
	95, 125, 175, 215	1,8	2,0	2,2	2,3	2,5	2,7	2,9	3,0	3,2

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

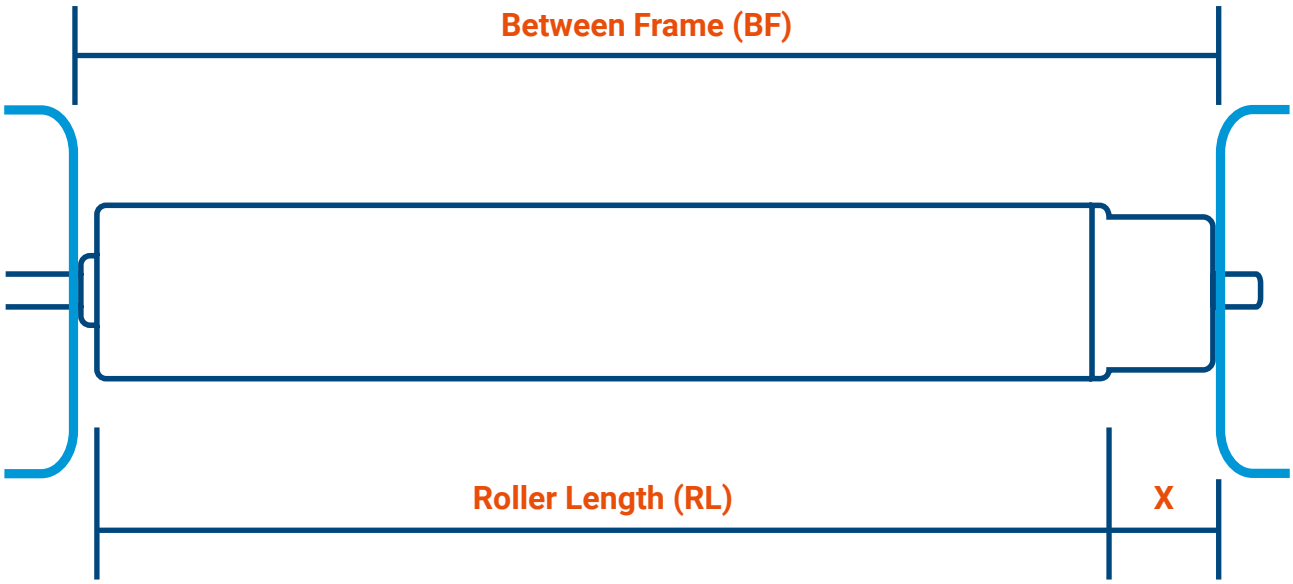
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: BF = RL + X



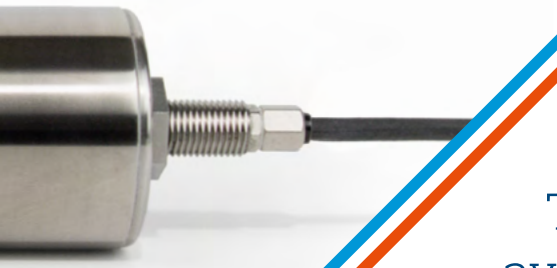
On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Senergy-Ai
48V

Double the voltage and achieve many benefits.

The Senergy-Ai 48V from Pulseroller is the standard motorized roller for all 48V conveyor applications. It offers you the same reliability, solid mechanical design as our 24V motor roller with a stronger electrical motor and the opportunity to control your motor roller with the Pulseroller 48V control of your choice. Due to different configurations and requirements, there is a suitable control for every configuration.

M8-4Pin standard connector



The 48V concept is available for Senergy motor rollers and PGD-Ai geared drives.

An inherent structural overdesign of all mechanical components results in unparalleled robustness and durability. This provides the basis for maximum system availability and minimum downtime.
Combined with the ConveyLinx Ai3-FC 48V network controller, the result is an unrivalled drive system capable of meeting any conveyor challenge.

The use of 48V as supply voltage results in clear advantages compared to 24V:

- Significantly increased torque of the drive giving stronger acceleration of heavy goods and higher throughput.
- More precise and smooth acceleration due to high power output, allowing better controllability of the drive when positioning and braking.
- Halving the current in the power supply cables allows significantly longer cables from the power supply unit to the individual motorised rollers and thus more flexibility in the cabling.
- Reduction in the number of power supplies in a system means savings in procurement, cabling and installation.

Benefits

- **Reliable mechanical design**
- **Error-Free gearbox design**
- **Option for precise positioning**
- **Excellent life expectancy**
- **Excellent acceleration of heavy goods**
- **Precise and smooth acceleration**
- **Less power supplies needed**

Features

- **Brushless 48V DC motor**
- **External motor controller**
- **M8-4Pin standard connector**
- **Internal data memory**
- **Longer cables feasible**
- **IP54/IP66/IP69K**
- **Remote control versatility and diagnostics**

General Technical Data

- **Voltage:** 48V DC
- **Nominal Output (mech.):** Up to 60W
- **Protection Class:** IP54/IP66/IP69K
- **Rated Current:** 1,7A
- **Adjustable Starting Current Limitation:** 1,7A | 2,0A | 2,5A | 3,5A | 4,0A
- **Connection:** M8 - 4Pin Connector
- **Ambient Temperature:** -30°C – +40°C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, Freezer, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm
Ø 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg

Basic Characteristics Data Senergy-Ai 48V

Speed Code	Gearbox	Gear Ratio	Max. Speed m/s*	Torque (in Nm)							Output (W) @ 20°C	Current (A)	Current (A)
				Rated Torque (Nm)	Acceleration Torque @ Limitation					Holding Torque (Nm)	Permanent	Rated Current	Max. Current
					1,7 A	2,0 A	2,5 A	3,5 A	4,0 A				
15	3-stage	45:1	0,41	3,23	4,58	4,91	5,72	7,36	8,12	7,94	52W	1,7A	4,0A
20		33:1	0,56	2,37	3,36	3,60	4,19	5,40	5,96	5,82			
35	2-stage	18:1	1,00	1,51	1,86	2,00	2,33	2,99	3,30	3,10	60W		
45		15:1	1,22	1,23	1,53	1,64	1,91	2,45	2,71	2,54			
60		11:1	1,67	0,90	1,12	1,20	1,40	1,80	1,99	1,86			

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Advanced Characteristics Data Senergy-Ai 48V

Gearbox	Gear Ratio	Output (W) @ 20°C	Derating (%/K)	Overload
3-stage	45:1	52W	-0,84%	252%
	33:1			
2-stage	18:1	60W	-0,66%	218%
	15:1			
	11:1			

Roller Weight Senergy-Ai 48V

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)								
		300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1200mm
ø 50mm	15, 20, 25	2,0	2,2	2,4	2,6	2,7	2,9	3,1	3,3	3,7
	35, 45, 60	2,0	2,1	2,3	2,5	2,7	2,9	3,1	3,2	3,6

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

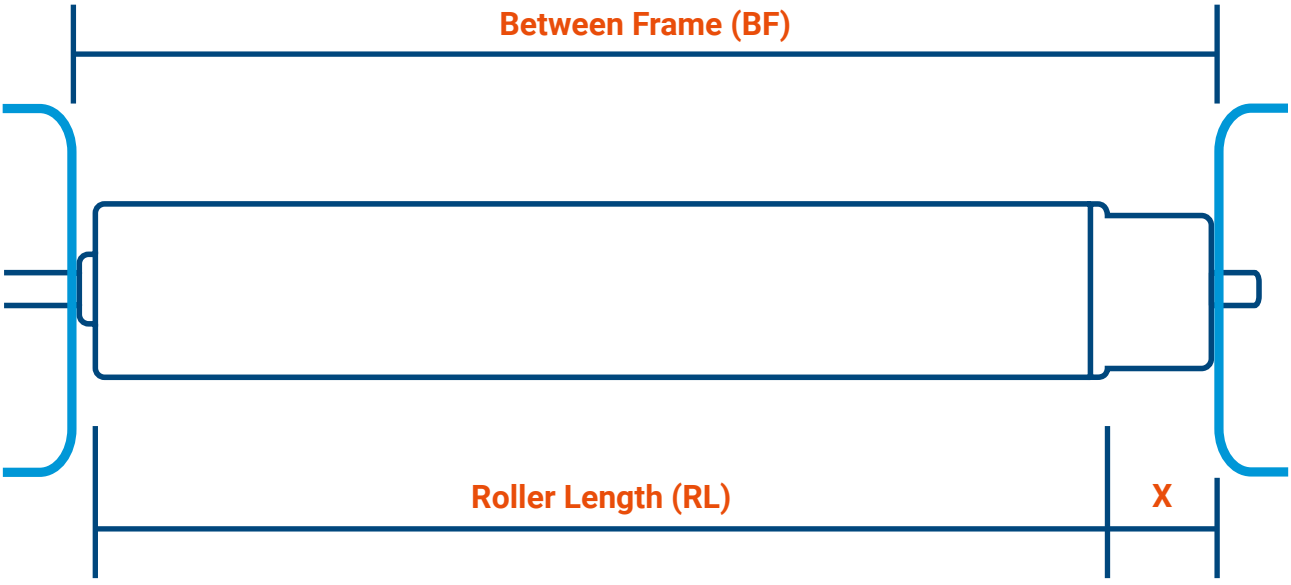
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: BF = RL + X



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Senergy
JST (-B)

Senergy-JST-B is a motorised roller with an integrated brushless 24V DC motor and an internal spring-loaded electro-magnetic brake. Under normal running conditions, the brake will be disengaged (held open by its electro-magnet). When the motor is switched off, the brake will automatically engage (closed by its spring), preventing the roller from turning further.

This motorised roller can also be used on automated guided vehicles (AGV's) to prevent containers moving due to inertia.

Controlled by ConveyLinx-JST-B, all control functions are available and comparable to the ConveyLinx-Ai2. The control unit automatically releases the brake with the drive command and engages it again when the drive is dynamically braked or when power is interrupted. The entire braking and holding control is therefore fully automatic.

Reliable transport – Safety holding brake

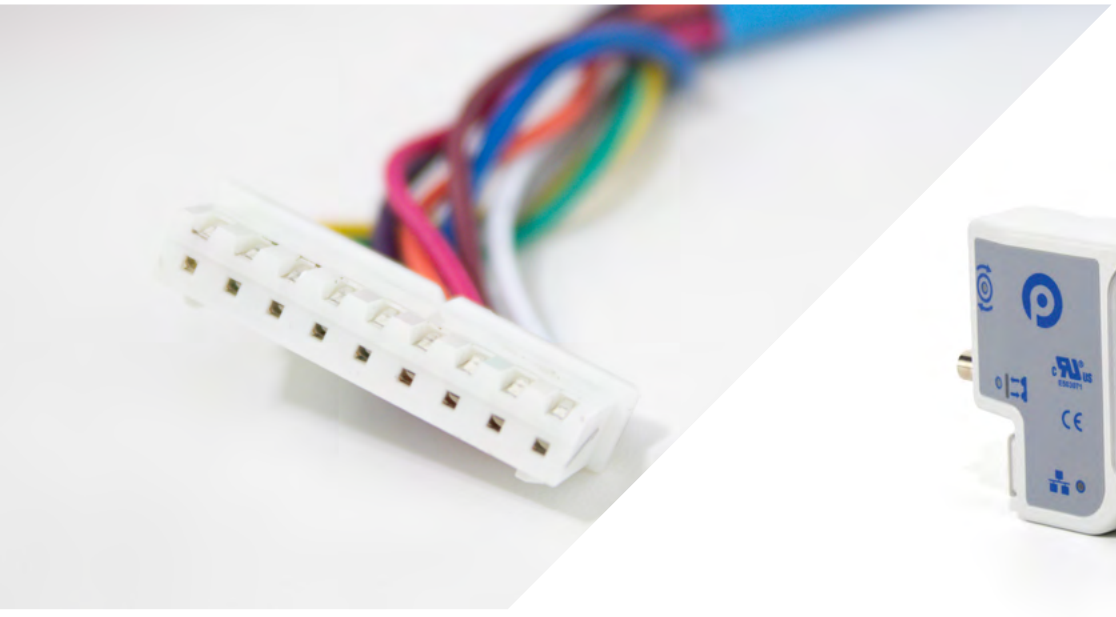
The Senergy-JST-B is the optimal motor roller for applications requiring a holding brake. For example, when items on a conveyor are required to stop and hold their position or when the conveyor has an incline or decline, the internal electro-magnetic brake will automatically engage when power to the conveyor is interrupted, thus holding any conveyed goods securely in position.

Benefits

- **Reliable mechanical design**
- **Error-Free gearbox design**
- **Perfect for incline and decline**
- **No external brake mechanism required**
- **Option for precise positioning**
- **Excellent life expectancy**

Features

- **Brushless 24V DC motor**
- **External motor controller**
- **Internal data memory**
- **Internal electro-mechanical brake**
- **9-Pin JST connector**



9-pin JST connector

ConveyLinx-JST-B 24V control

General Technical Data

- **Voltage:** 24V DC
- **Nominal Output (mech.):** 50W
- **Protection Class:** IP54
- **Rated Current:** ECO: 2,5A | BOOST: 3,5A | BOOST-8: 3,5A
- **Starting Current:** ECO: 3,0A | BOOST: 5,0A | BOOST-8: 8,0A
- **Connection:** 9-Pin JST Connector
- **Ambient Temperature:** 0˚C – +40˚C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm
Ø 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg

Characteristics Data Senergy-JST (without Brake) in Eco-Mode and Boost-Mode

Speed Code	Gearbox	Max. Speed m/s*		Rated Torque Nm		Acceleration Torque Nm	
		Eco	Boost	Eco	Boost	Eco	Boost
15	3-stage	0,34	0,25	2,7	4,86	4,46	8,02
20		0,46	0,33	1,98	3,56	3,27	5,88
25		0,56	0,42	1,62	2,92	2,67	4,81
35	2-stage	0,83	0,58	1,2	2,16	1,98	3,56
45		1,01	0,75	1,0	1,8	1,65	2,97
60		1,38	1,0	0,73	1,32	1,21	2,18
75		1,69	1,25	0,6	1,08	0,99	1,78
95	1-stage	2,23	1,58	0,52	0,93	0,86	1,54
125		3,04	2,08	0,37	0,67	0,61	1,1
175		4,1	2,92	0,27	0,48	0,44	0,79
215		5,1	3,58	0,22	0,4	0,37	0,66

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Characteristics Data Senergy-JST-B (with Brake) in Eco-Mode and Boost-Mode

Speed Code	Gearbox	Max. Speed m/s*		Rated Torque Nm		Acceleration Torque Nm		Holding Torque Nm
		Eco	Boost	Eco	Boost	Eco	Boost	
15	3-stage	0,34	0,25	2,7	4,86	4,46	8,02	11,25
25		0,56	0,42	1,62	2,92	2,67	4,81	6,75
35	2-stage	0,83	0,58	1,2	2,16	1,98	3,56	4,5
45		1,01	0,75	1	1,8	1,65	2,97	3,75
60		1,38	1,0	0,73	1,32	1,21	2,18	2,75

* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

Roller Weight Senergy-JST (without Brake)

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)								
		300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1200mm
ø 50mm	15, 20, 25	2,0	2,2	2,4	2,6	2,7	2,9	3,1	3,3	3,7
	35, 45, 60, 75	2,0	2,1	2,3	2,5	2,7	2,9	3,1	3,2	3,6
	95, 125, 175, 215	1,8	2,0	2,2	2,3	2,5	2,7	2,9	3,0	3,2

Weight in kg

Roller Weight Senergy-JST-B (with Break)

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)								
		300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1200mm
ø 50mm	15, 20, 25	2,5	2,7	2,9	3,1	3,2	3,4	3,6	3,8	4,2
	35, 45, 60	2,5	2,6	2,8	3,0	3,2	3,4	3,6	3,7	4,1

Weight in kg

Information Installation Length

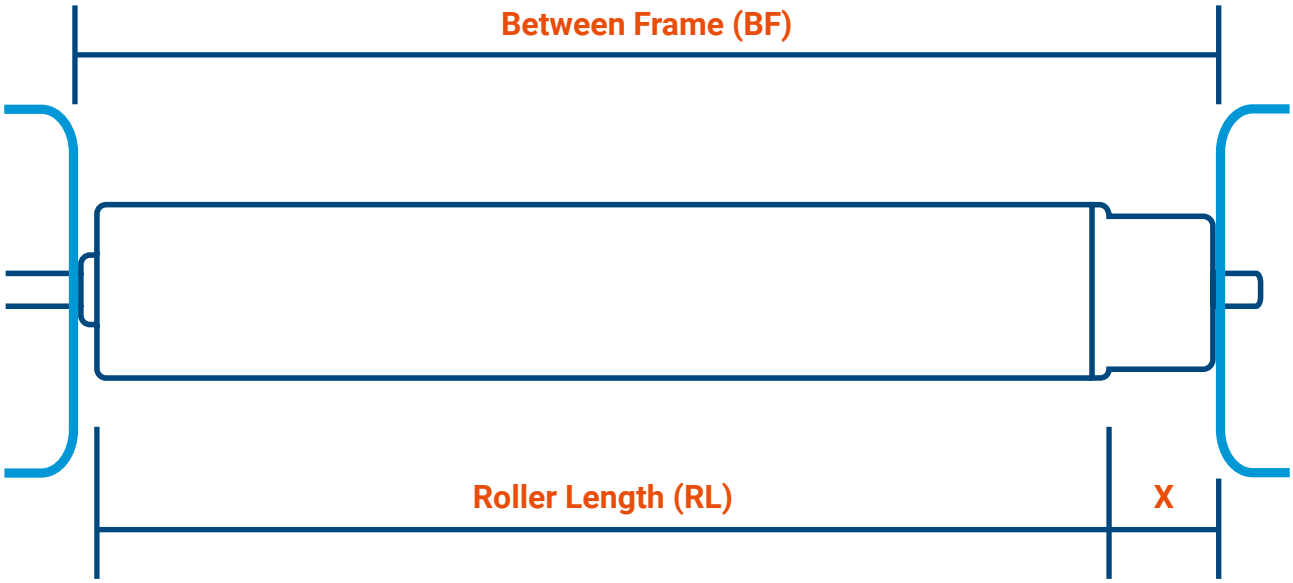
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: BF = RL + X



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

What we stand for:

Efficiency.
Reliability.
Quality.
Safety.

Senergy
IDC

Our motor roller for 3rd party controls connection.

The Senergy-IDC is the first motor roller of Pulseroller which is capable to be controlled by a third party control of your choice! It is equipped with the same reliable and proven gearbox and electrical motor as our other motor rollers. The result is a motor roller which gives you the chance to choose your preferred controls architecture in combination with a reliable motor roller.

The Senergy-IDC is built on proven, robust and reliable components. It was developed on the base of our Senergy-Ai motor roller which is known for its reliability, error-free function as well as poweful operations. With the motor controller placed inside of the motor roller you receive a motor roller which is able to adapt to your specifications and controls architecture!

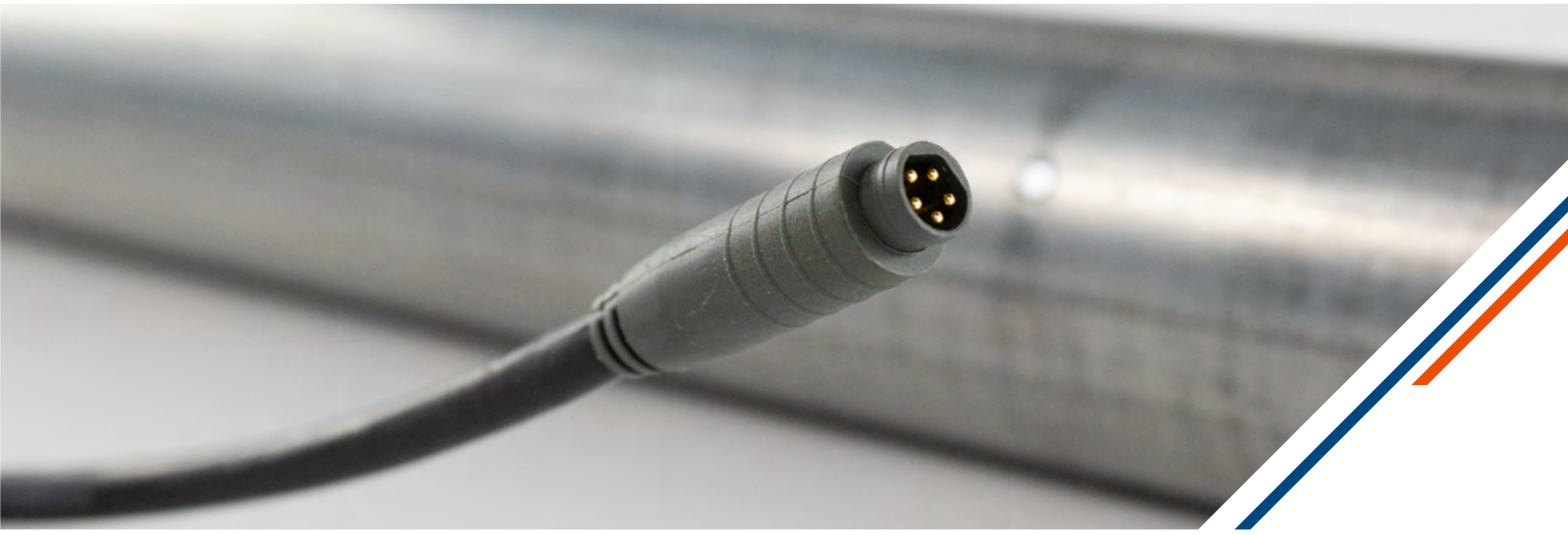
By utilizing the analogue 0-10V standard, the Senergy-IDC can be easily connected to a wide range of third-party controllers. This allows you to operate our motor roller with the control system of your choice, providing customized solutions for your specific needs.

Benefits

- **Freedom to choose control**
- **Proven design and gearbox**
- **Excellent life expectancy**
- **Integrated commutation electronics**
- **Customized solutions**

Features

- **Brushless 24V DC motor**
- **5Pin connector**
- **Priciple of 0-10V standard**
- **IP54/IP66/IP69K**



5-Pin standard connector

General Technical Data

- **Voltage:** 24V DC
- **Nominal Output (mech.):** Up to 42W
- **Protection Class:** IP54/IP66/IP 69K
- **Rated Current:** 2,4A
- **Starting Current:** 3,0A
- **Connection:** 5-Pin Connector
- **Ambient Temperature:** -30˚C – +40˚C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, Freezer, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm
ø 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg

Basic Characteristics Data Senergy-IDC

Speed Code	Gearbox	Max. Speed m/s*	Rated Torque (Nm) @ 20°C	Acceleration Torque Nm
15	3-stage	0,34	2,53	4,15
20		0,46	1,86	3,03
35	2-stage	0,83	1,15	1,84
45		1,01	0,94	1,51
60		1,38	0,69	1,1
95	1-stage	2,23	0,48	0,75

* Speed regulation according to input voltage shown on the page 26.

Advanced Characteristics Data Senergy-IDC

Gearbox	Output (W) @ 20°C	Derating (%/K)	Overload
3-stage	34W	-1,2%	146%
2-stage	38W	-1,1%	163%
1-stage	42W	-1,0%	181%

Roller Weight Senergy-IDC in kg

Diameter	Speed Code	Roller Length (Weight varies depending on Interlocking Options)								
		300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm	1200mm
ø 50mm	15, 20, 25	2,0	2,2	2,4	2,6	2,7	2,9	3,1	3,3	3,7
	35, 45, 60, 75	2,0	2,1	2,3	2,5	2,7	2,9	3,1	3,2	3,6
	95	1,8	2,0	2,2	2,3	2,5	2,7	2,9	3,0	3,2

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

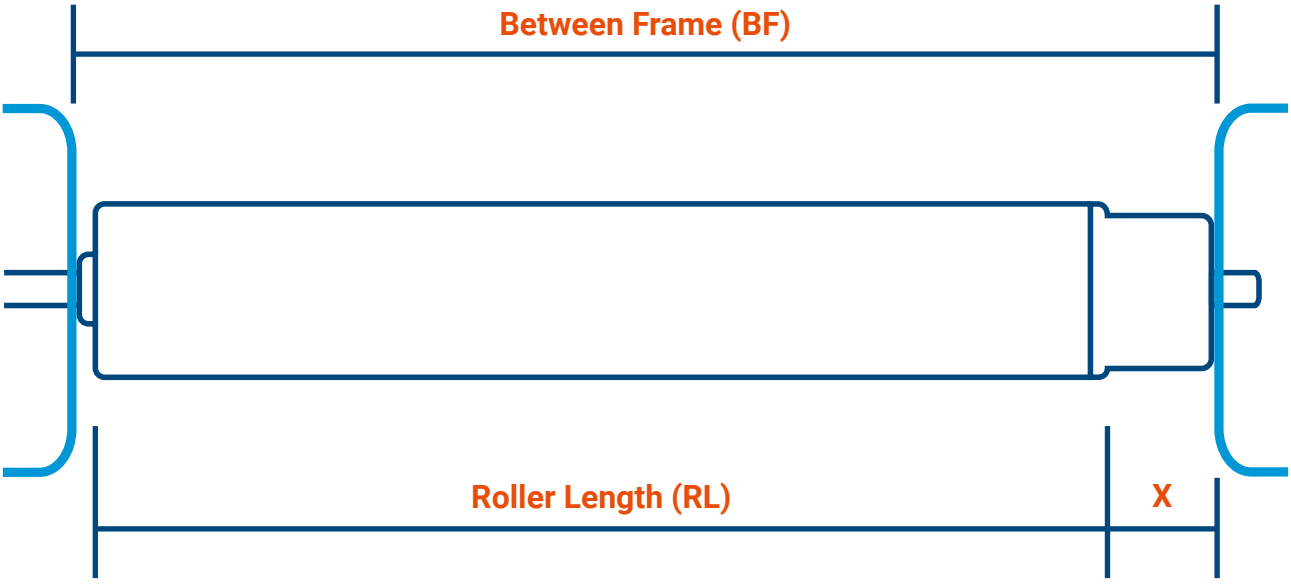
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

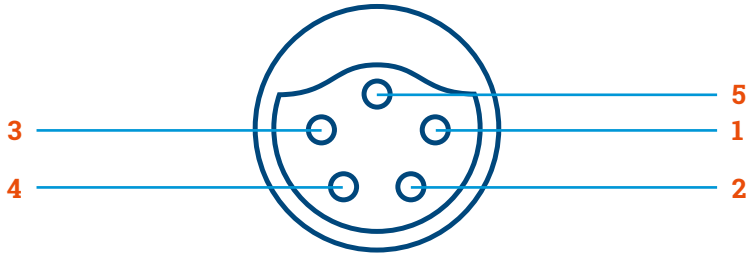
RL = Roller Length | BF = Between Frame

Calculation Formula: BF = RL + X

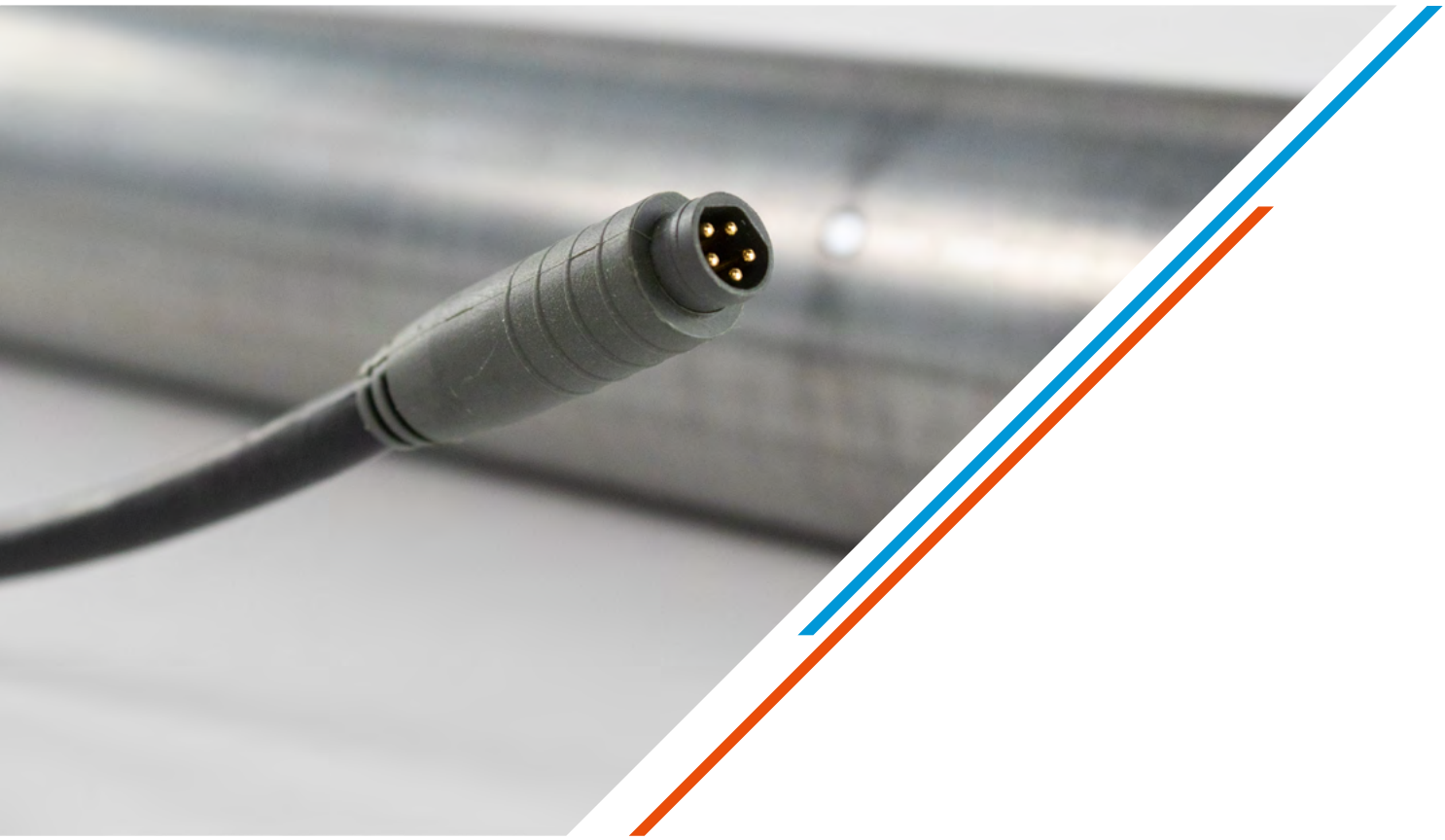


On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Senergy-IDC connector pinout



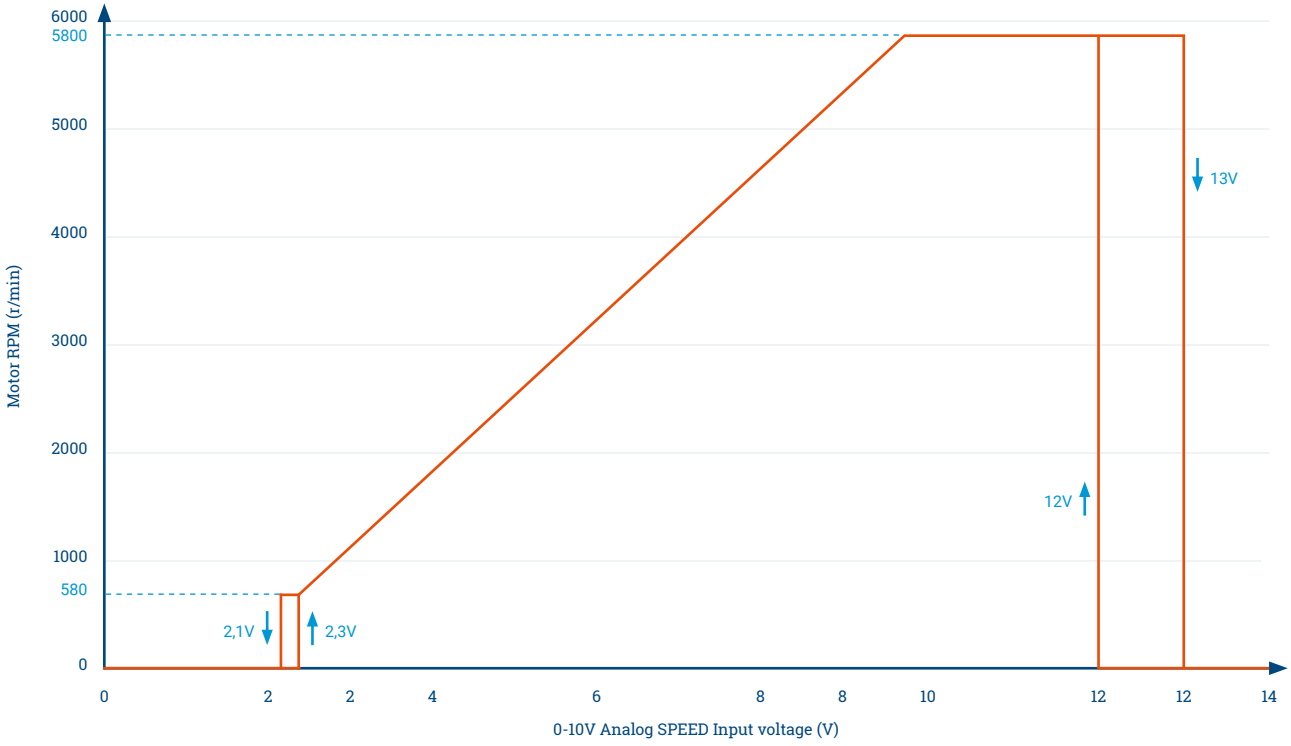
Pin	Function	Value
1	Power supply input (+)	Rated voltage: 24V DC Voltage range: 18V to 28V DC
2	Direction of rotation, seen from the cable end of SENERGY-IDC	< 4.5 V = Counter clockwise > 6.5 V = Clockwise
3	Earth for power supply and signal (-)	Ground
4	Error output	Open Collector Error = High Signal No error = Low Signal
5	Speed input voltage	See table and chart on next page



Speed input voltage versus motor RPM Data

Input Voltage (V)	Motor RPM (rpm)
13~	0
10 ~ 12	5800
9.5	5800
9.3	5655
9.1	5510
8.9	5365
8.7	5220
8.5	5075
8.3	4930
8.1	4785
7.9	4640
7.7	4495
7.5	4350
7.3	4205
7.1	4060
6.9	3915
6.7	3770
6.5	3625
6.3	3480
6.1	3335

Input Voltage (V)	Motor RPM (rpm)
5.9	3190
5.7	3045
5.5	2900
5.3	2755
5.1	2610
4.9	2465
4.7	2320
4.5	2175
4.3	2030
4.1	1885
3.9	1740
3.7	1595
3.5	1450
3.3	1305
3.1	1160
2.9	1015
2.7	870
2.5	725
2.3	580
2 ~ 0	0



Speed Input Voltage	Target motor RPM
0 - 2.3V	0 [r/min] (Stop: Brake Mode)
2.3V - 9.5V	580 - 5800 [r/min] (Linear resolution)
9.5V - 13V	5800 [r/min] (Max. Speed)

Holding Brake Roller

Mechanical holding brake roller for incline and decline conveyors.

The Holding Brake Roller, made for usage with 24V products, is our solution for a reliable and robust brake roller with a M8-4Pin standard connection.
In combination with a ConveyLinx-Ai control of your choice and our Senergy-Ai 24V motor roller you recive the perfect product package for incline and decline conveyors.

Available only in gear ratio 18:1, the HBR is well equipped with enough holding torque for a variety

of applications. The HBR is controlled by a ConveyLinx controller which must be also connected to a motorised roller. The motorised roller is connected to one motor conn ection and the holding brake roller is connected to the other motor connection. ConveyLinx coordinates and controls the brake completely automatically. This ensures that the conveyor system functions reliably. No package or container can travel downhill on inclines or inclines in the event of a power failure or emergency stop. The HBR reliably keeps the rollers braked.

Benefits

- **Automatically controlled holding brake**
- **Error-Free gearbox design**
- **Strong Holding Torque**
- **Excellent life expectancy**
- **Safe operations without programming**
- **Braking without power**

Features

- **Spring-mounted holding brake**
- **M8-4Pin standard connector**
- **Internal data memory**
- **IP54/IP66/IP69K**
- **Identical design compared to our motor rollers**

PolyV stainless steel head

M8-4Pin standard connector

General Technical Data

- **Voltage:** 24V DC (for Brake)
- **Protection Class:** IP54/IP66/IP69K
- **Current Consumption:** 0,25 ~ 0,30A
- **Connection:** M8-4Pin Connector
- **Ambient Temperature:** 0˚C – +40˚C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-plated steel, Stainless steel
- **Lagging Options:** Conical segments, Crowned tube, PVC, PU
- **Implementation Options:** Standard, WashDown
- **Certifications:** RoHS, REACH

Static Load Capacity

Roller Length	300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm
ø 50mm	80 kg	70 kg	60 kg	55 kg	50 kg	45 kg	40 kg	35 kg

Holding Torque Holding Brake Roller

Gear Ratio	Holding Torque
18:1	4,5 Nm

Roller Weight Holding Brake Roller

Diameter	Gear Ratio	Roller Length (Weight varies depending on Interlocking Options)							
		300mm	400mm	500mm	600mm	700mm	800mm	900mm	1000mm
ø 50mm	18:1	1,8	2,0	2,2	2,4	2,5	2,7	2,9	3,0

* Varies depending on the respective head version spring axle / internal thread; Special versions on request

Weight in kg

Information Installation Length

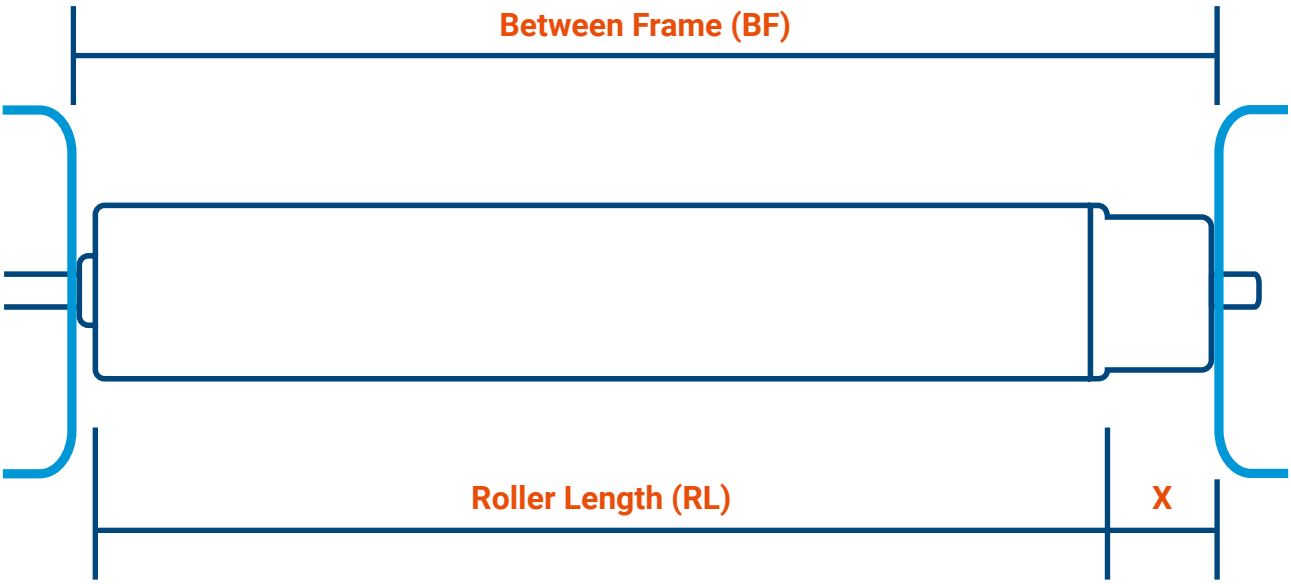
The minimum and maximum installation length of our Motor Rollers depends on several factors - including the type of gearbox used, the selected tube material and lagging option (e.g. grooved), the motor type and interlocking option or the selected mounting option (e.g. spring-loaded hex).

A necessary axial play has already been taken into account, which is why the actual internal width between the frame is required to determine the dimension.

Info: Our article number always indicates the roller length (RL) and not the Between Frame length (BF)!

RL = Roller Length | BF = Between Frame

Calculation Formula: BF = RL + X



On page 46 and following you will find information on the variants and dimensions of the drive side and the dimensions of the cable side that we offer.

Pallet Ai

The specialised motor roller for pallet handling and transport.

The Pallet-Ai 24V is the perfect solution for pallet handling in challenging and spatial conditions. Especially when you are not able to install con-ventional gear motors, Pallet-Ai is the ideal solution for your conveyor system.

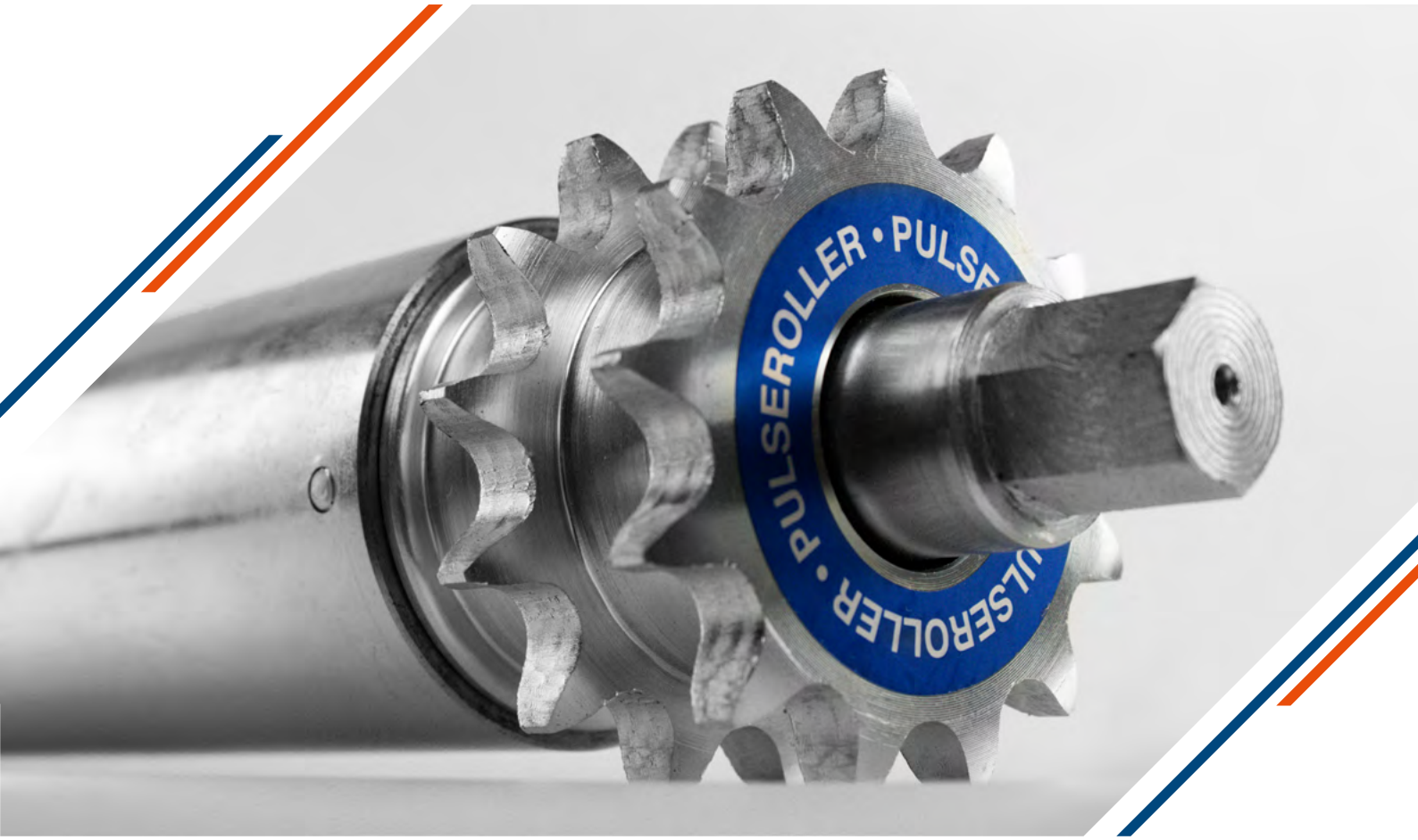
In situations where a conventional geared motor is not suitable, the use of a motorised roller offers a practical alternative. This motorised roller has sufficient torque to move pallets weighing up to 1000 kg (please check the weight again) and both, chain as well as PolvV versions are available to drive the travelling conveyor rollers. Due to their compatibility with the entire range of the "Ai-controller family", integration into higher-level control systems can be realised effortlessly. Numerous functions and configuration options are available to meet individual requirements.

Benefits

- **Reliable mechanical design**
- **Error-Free gearbox design**
- **Option for precise positioning**
- **Perfect for tight spatial conditions**
- **Highly adaptable**
- **Same control architecture as Senergy-Ai 24V**

Features

- **Brushless 24V DC motor**
- **External motor controller**
- **M8-4Pin standard connector**
- **Internal data memory**
- **IP54/IP66/IP69K**
- **Remote control versatility and diagnostics**



General Technical Data

- **Voltage:** 24V DC
- **Nominal Output:** 50W
- **Protection Class:** IP54/IP66
- **Rated Current:** BOOST: 3,5A | BOOST-8: 3,5A
- **Starting Current:** BOOST: 5,0A | BOOST-8: 8,0A
- **Connection:** M8-4Pin Connector
- **Ambient Temperature:** 0˚C – +40˚C
- **Ambient Humidity:** 10% – 90% (No Condensation)
- **Tube Material:** Zinc-Plated steel, Stainless steel
- **Lagging Options:** 3mm Black Rubber, 3mm Urethane
- **Max. Tube Length:** 1800mm
- **Implementation Options:** Standard, WashDown
- **Certifications:** UL, CE, UKCA, RoHS, REACH

Static Load Capacity

Roller Length	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
ø 60,5mm	300 kg	300 kg	300 kg	300 kg	260 kg	210 kg	170 kg	150 kg	130 kg	120 kg	110 kg

Characteristics Data Pallet-Ai

Diameter	Speedcode	Gearbox	Max. Speed m/s*	Rated Torque (Nm)	Acceleration Torque (Nm)
ø 60,5 mm	8	3-stage	0,14	10,9	49,3
	10		0,2	8,0	36,1
	15		0,3	5,4	24,3
	20		0,4	3,9	17,7

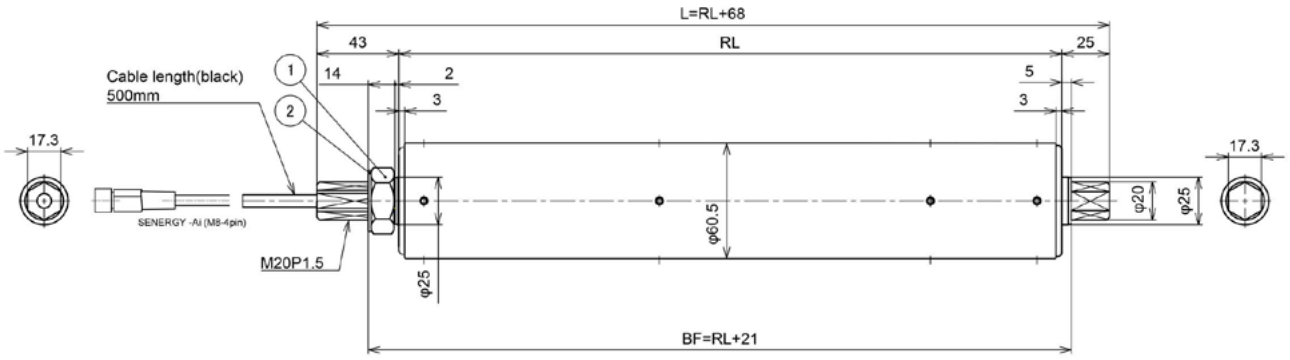
* The speed can be reduced to 10% with our controls. Recommended working range 100% to 50%.

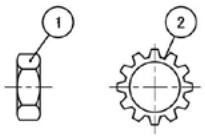
Roller Weight Pallet-Ai

Roller Length	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	1100 mm	1200 mm	1300 mm	1400 mm	1500 mm
ø 60,5mm	8,1	8,6	9,0	9,5	9,9	10,4	10,8	11,2	11,7	12,1	12,6

Weight in kg

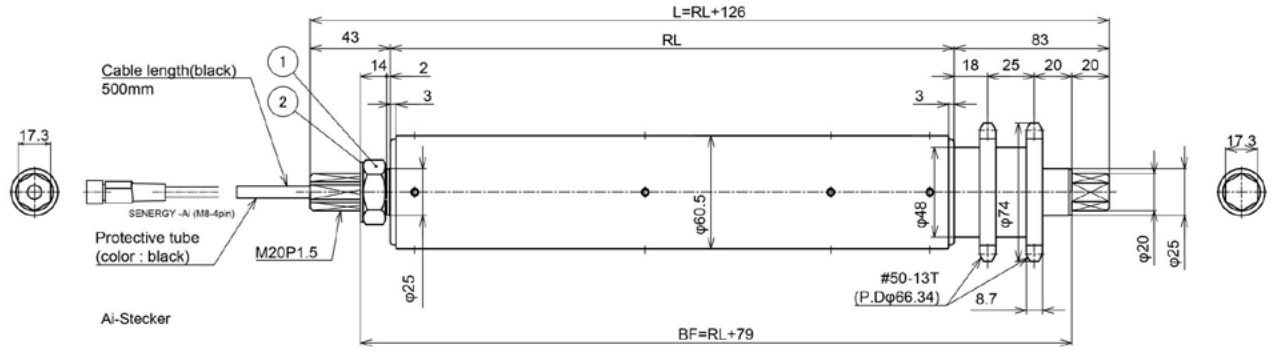
Reference Drawing of Pallet-Ai Plain Straight

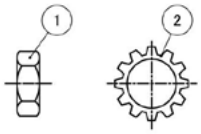




STANDARD ACCESSORISE	
1.M20P1.5 Hex Nut	2
2.Toothed Lock Washer	2

Reference Drawing of Pallet-Ai Dual Sprockets





INCLUDED ITEMS		
ITEM	DESCRIPTION	QTY
1	M20P1.5 Hex Nut	2
2	TOOTHED LOCK WASHER	2

Tube Versions

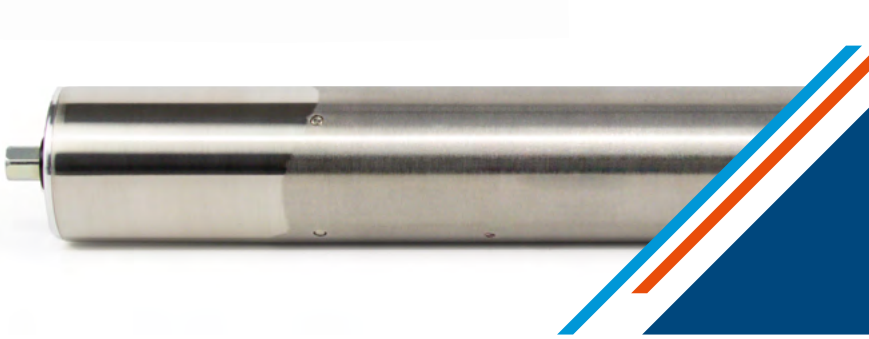
Senergy powered motor rollers can be used either as a standalone powered roller, or for driving slave rollers utilizing most common types of belt transmission.

Additionally, there is a IP66/IP69K washdown option as a full stainless steel Senergy-Ai available and also a freezer option with IP54. Special tube options are possible on request.

Stainless steel
50 x 1,5mm

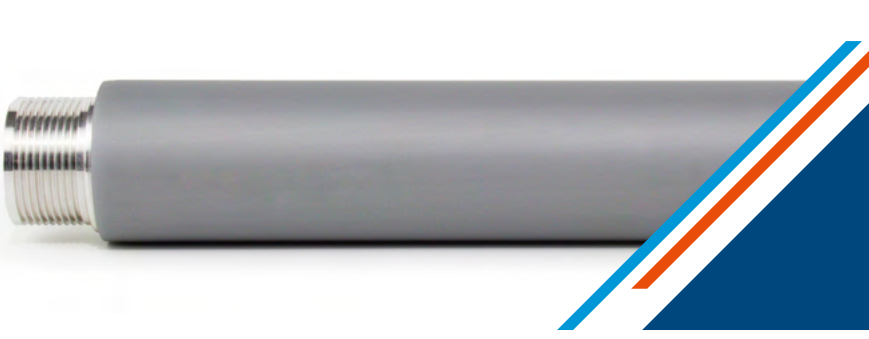
Zinc-Plated steel
50 x 1,5mm

Conical segments
with 1,8° conicity
for roller curves



Crowned
51 x 1,5mm

2 mm Polyurethane
Tube: 50 x 1,5mm



2 mm PVC
Tube: 50 x 1,5mm

Torque Transmissions

Poly-V head for use with standard Poly-V belts.

M8 internal thread

Spring-loaded hex shaft

Motor roller without torque transmission

M8 internal thread

Spring-loaded hex shaft

Poly-V IP66/69K head for use with standard Poly-V belts.

M8 internal thread

Spring-loaded hex shaft

IP66/69K rated without torque transmission

M8 internal thread

Spring-loaded hex shaft

Roundbelt head for round belts.

M8 internal thread

Spring-loaded hex shaft

Single or double groove tube for round belts. (available in IP66/69K)

M8 internal thread

Spring-loaded hex shaft

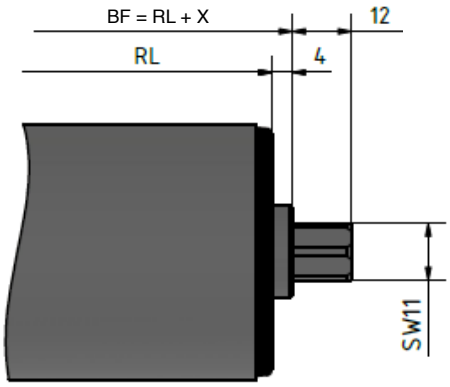
Get to know our test loop in our Sales Office!

Experience it in our german Sales Office.

Variants and Dimensions

Variants and dimensions of the drive side

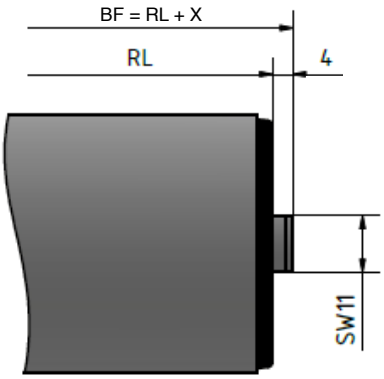
No interlocking with **11mm hexagon spring axle**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

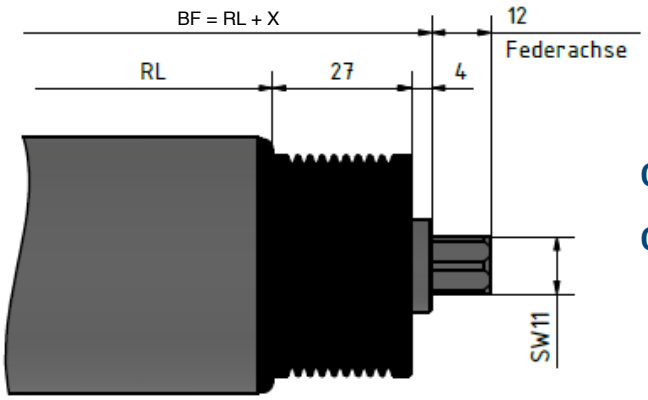
No interlocking with **M8 internal thread (sliding shaft)**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

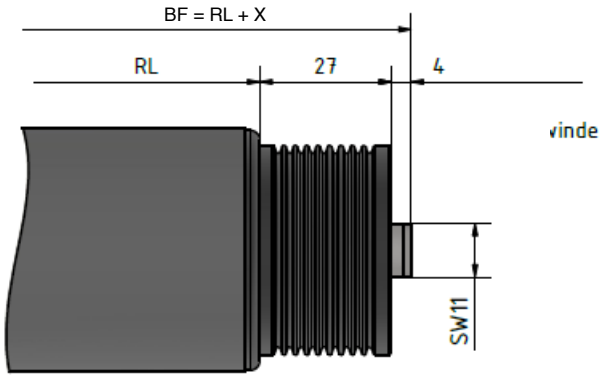
Poly-V drive head with **11mm hexagon spring axle**



Cable side with M12 thread: X = +36mm

Cable side without thread: X = +35mm

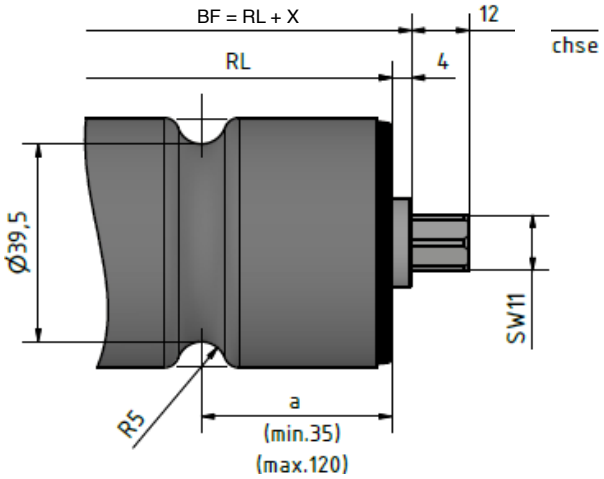
Poly-V drive head with **M8 internal thread (sliding shaft)**



Cable side with M12 thread: X = +36mm

Cable side without thread: X = +35mm

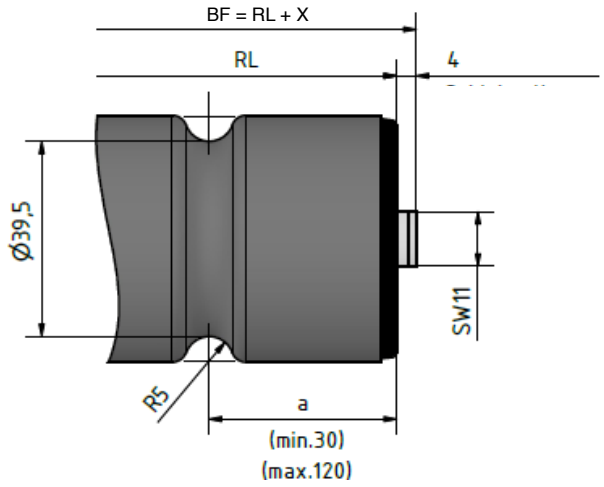
Roundbelt drive with a groove and **11mm hexagonal spring axle**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

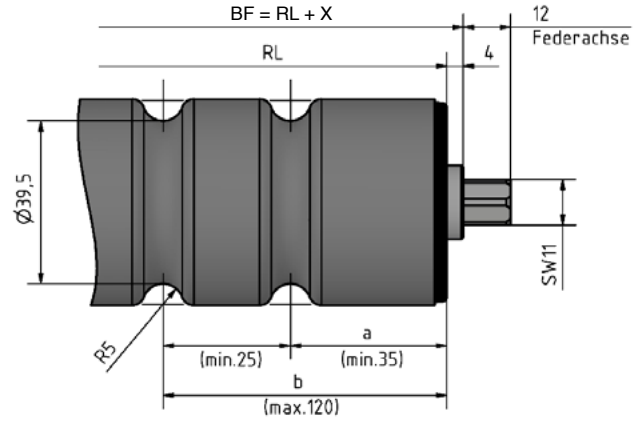
Roundbelt drive with a groove and **M8 internal thread (sliding shaft)**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

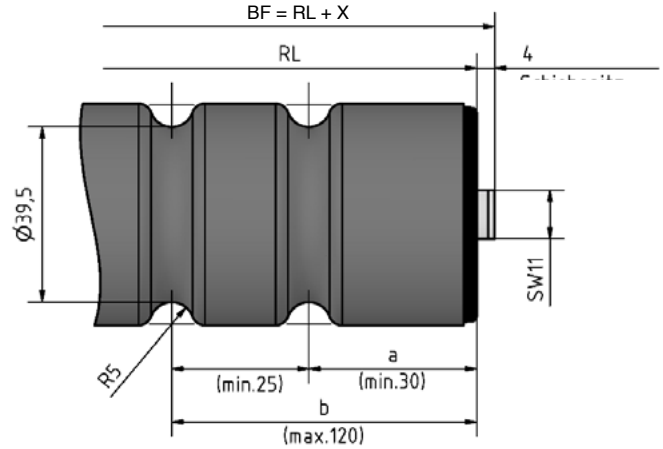
Roundbelt drive with **11mm hexagonal spring axle**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

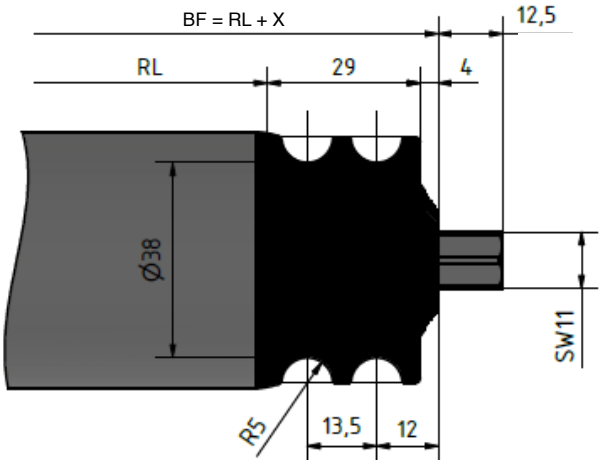
Roundbelt drive with **M8 internal thread (sliding shaft)**



Cable side with M12 thread: X = +9mm

Cable side without thread: X = +8mm

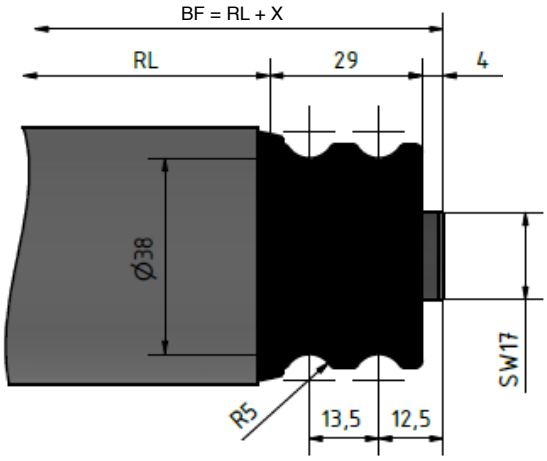
Double groove head for round belts with **11mm hexagonal spring axle**



Cable side with M12 thread: X = +38mm

Cable side without thread: X = +37mm

Double groove head for round belts with **M8 internal thread (sliding shaft)**



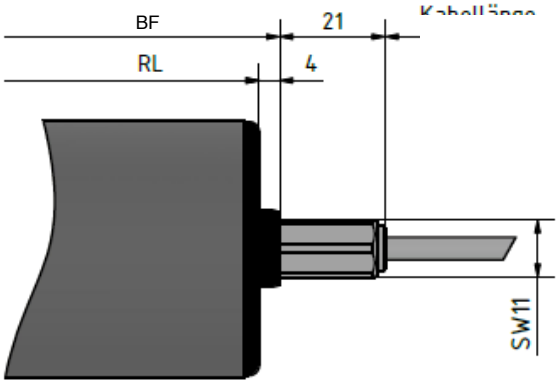
Cable side with M12 thread: X = +38mm

Cable side without thread: X = +37mm

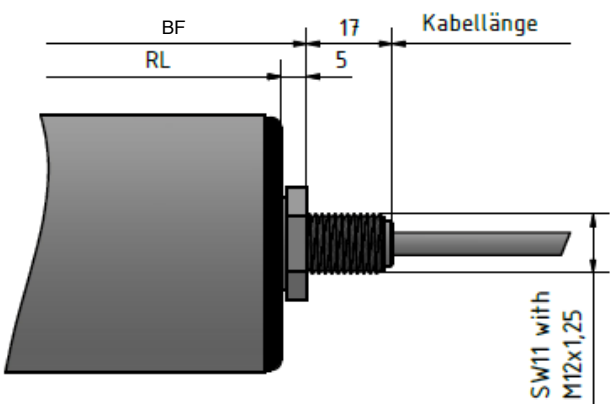
Cable Side Dimensions

Cable length Senergy-Ai: 1000mm

Non-threaded Hexagon 11mm



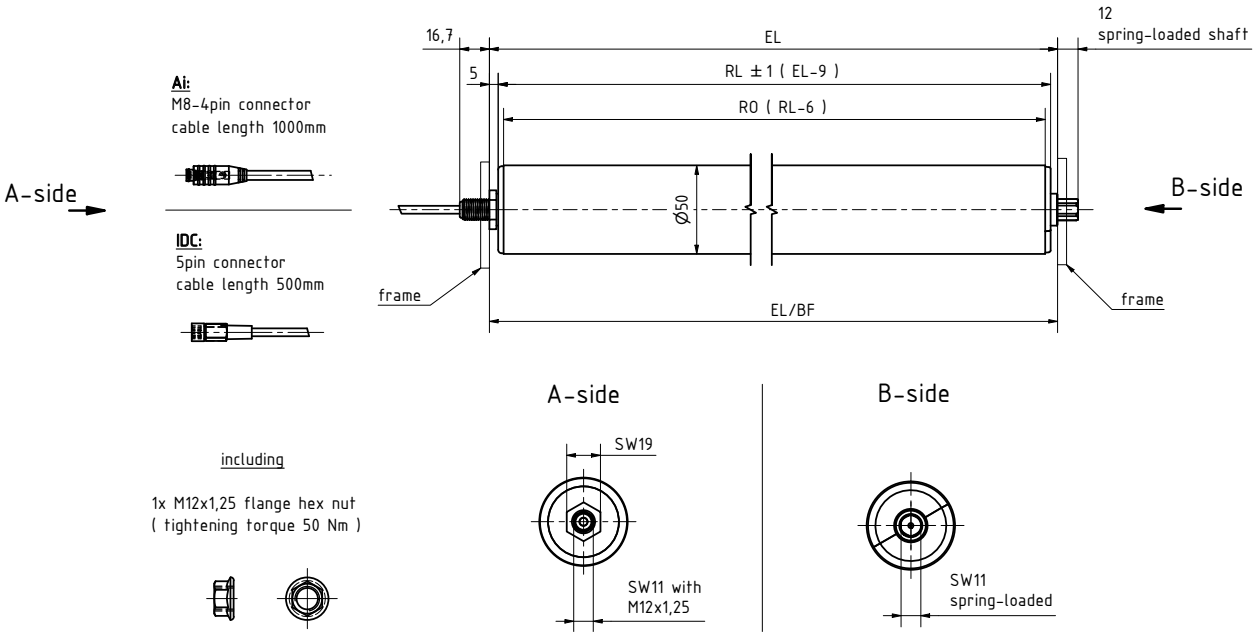
Hexagon 11mm with M12 thread



Reference
Drawings

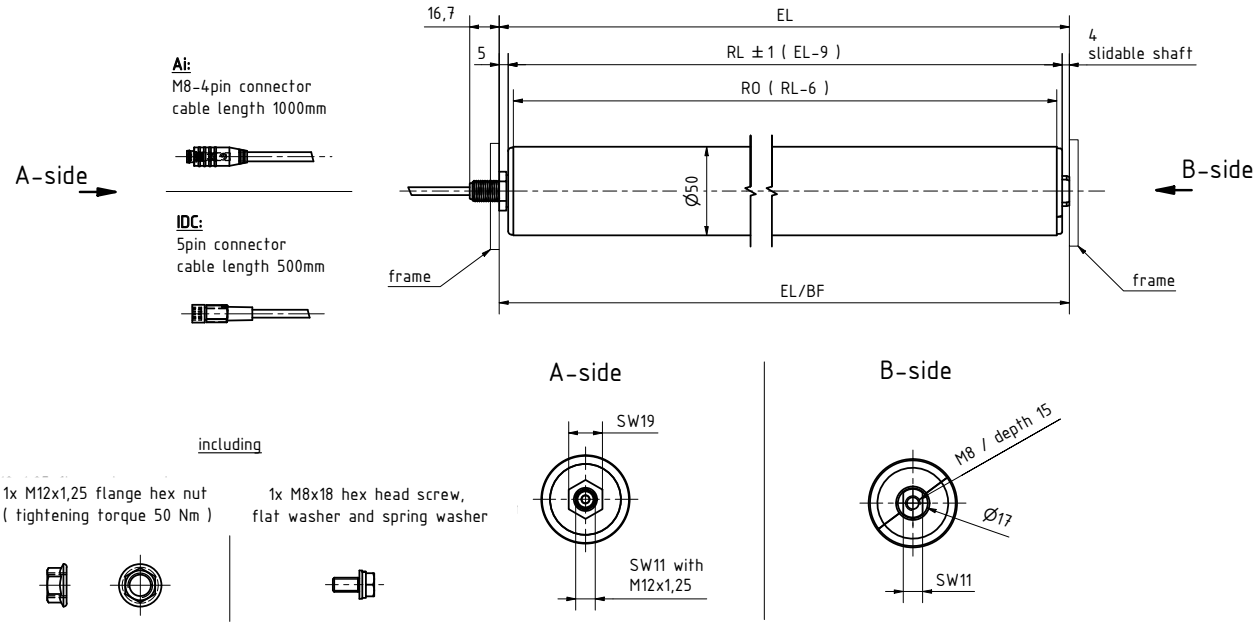
Standard (IP54), No interlocking

M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



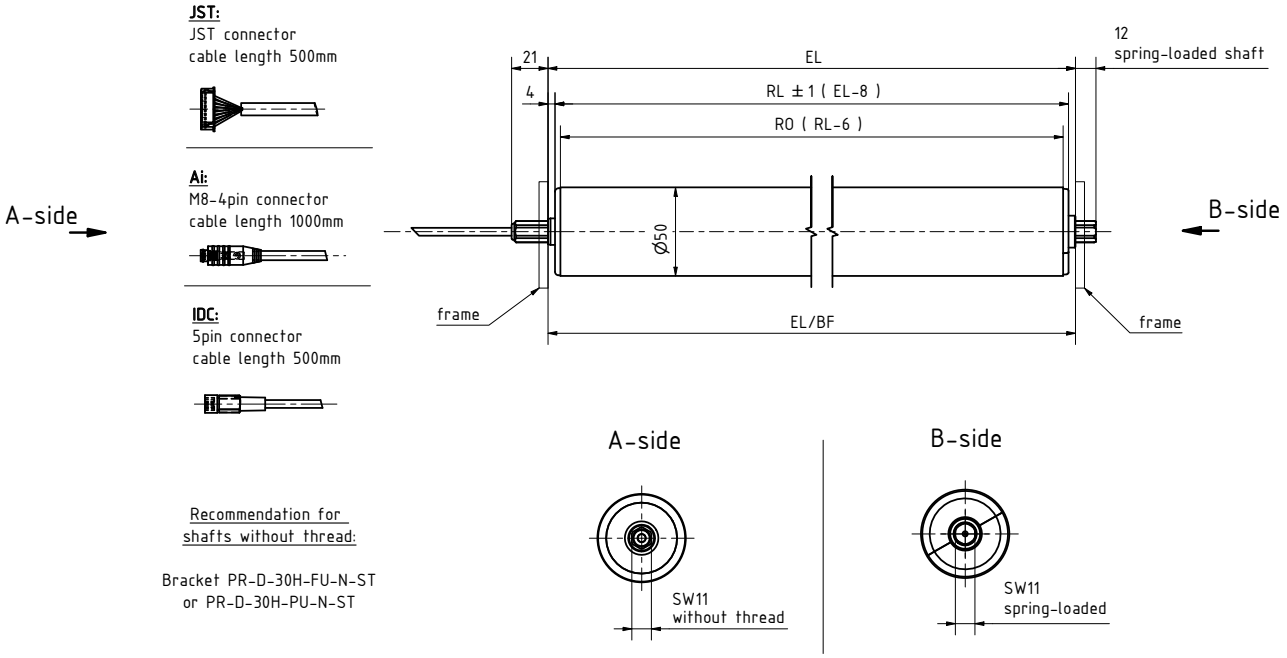
Standard (IP54), No interlocking

M12x1,25 threaded hex SW11 / M8 internal thread



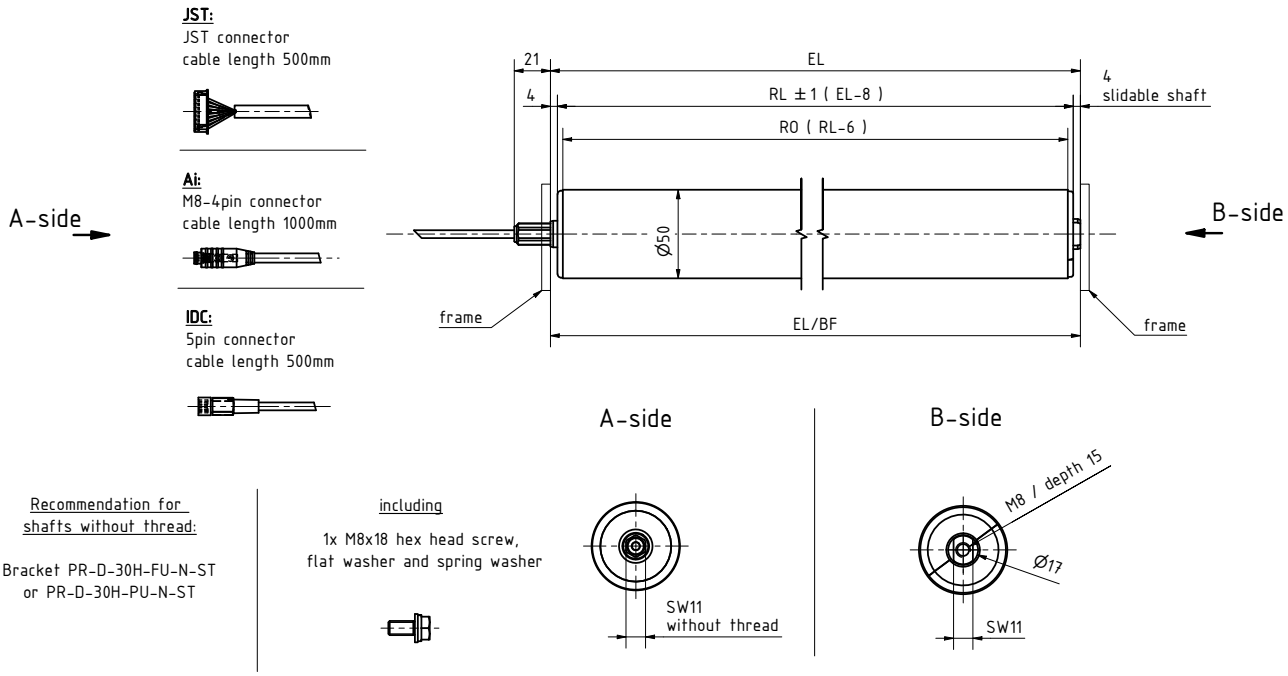
Standard (IP54), No interlocking

Non threaded hex SW11 / Spring-loaded hex SW11



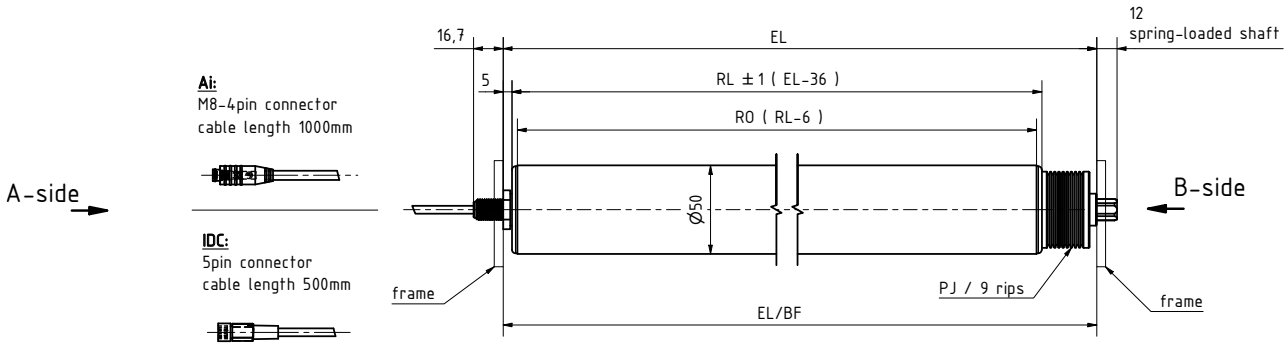
Standard (IP54), No interlocking

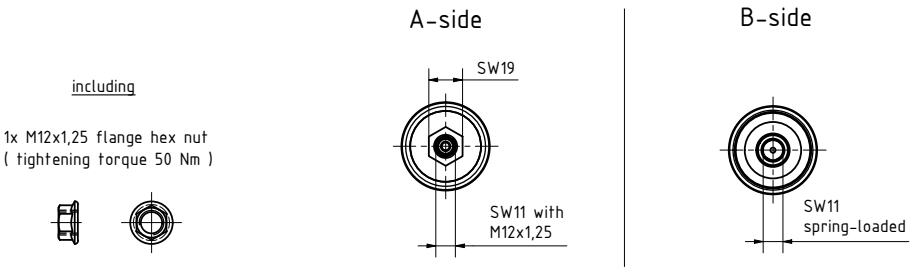
Non threaded hex SW11 / M8 internal thread



Standard (IP54), PolyV-head

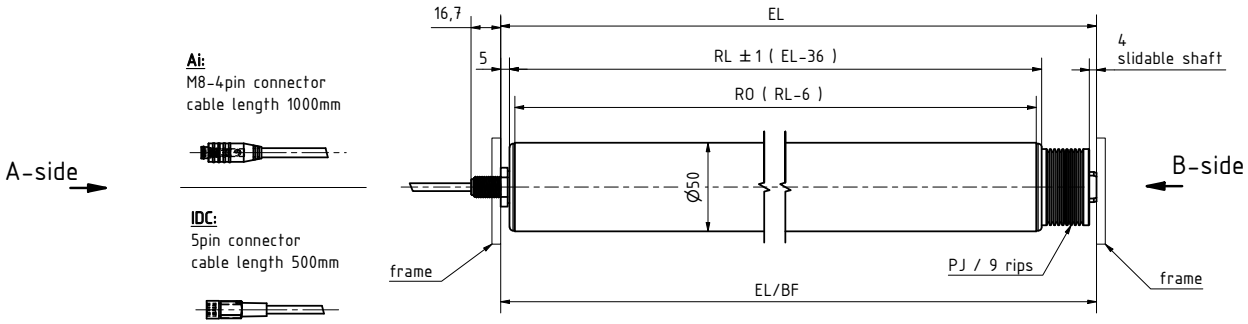
M12x1,25 threaded hex SW11 / Spring-loaded hex SW11

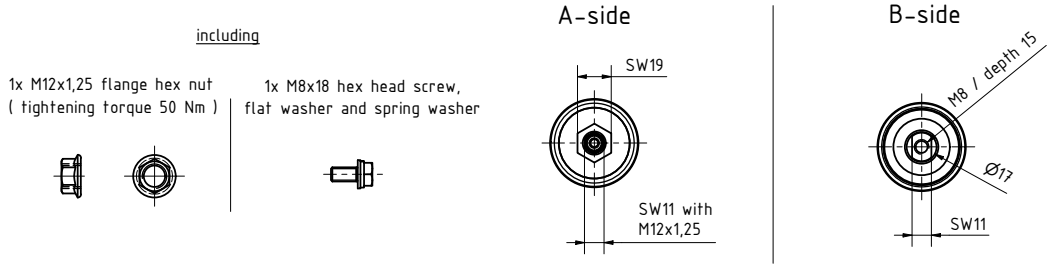




Standard (IP54), PolyV-head

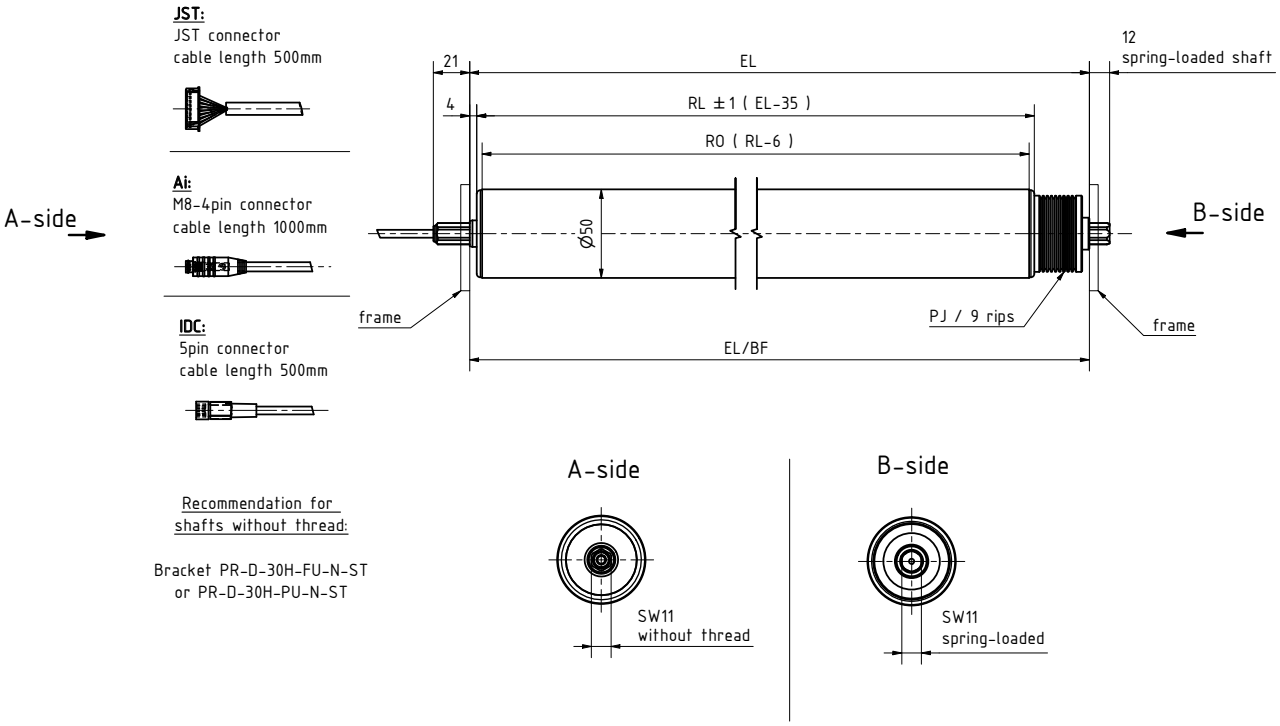
M12x1,25 threaded hex SW11 / M8 internal thread





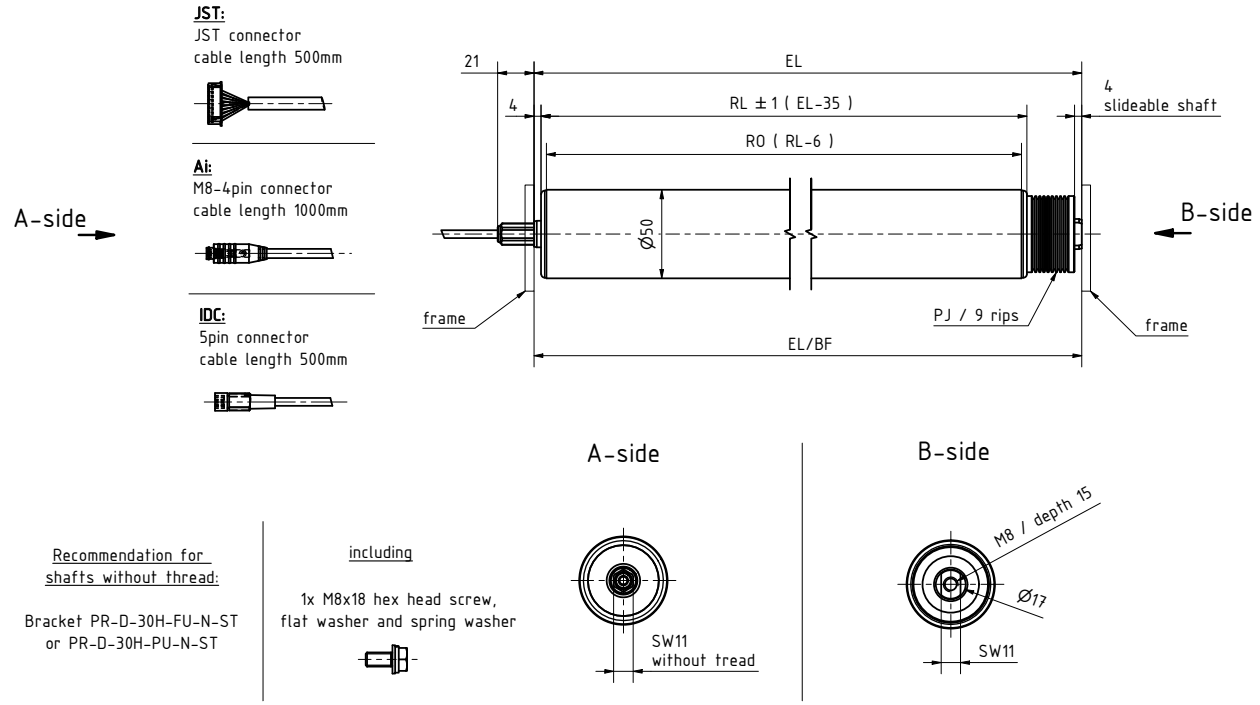
Standard (IP54), PolyV-head

Non threaded hex SW11 / Spring-loaded hex SW11

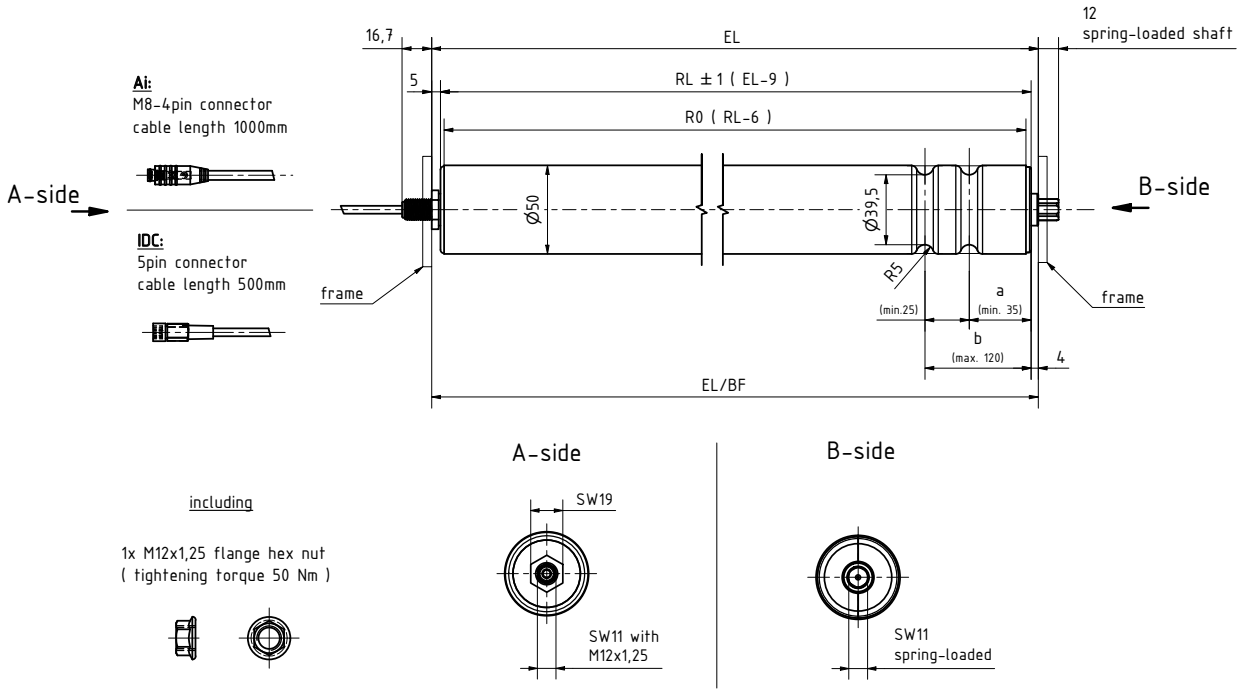


Standard (IP54), PolyV-head

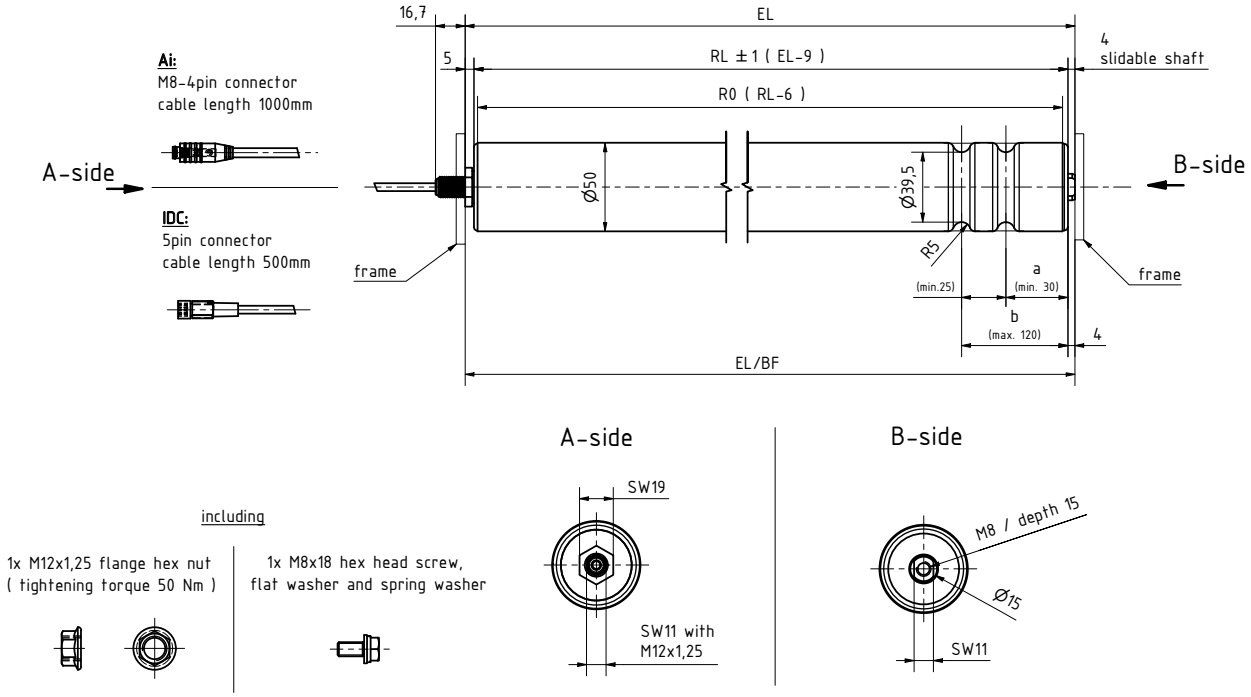
Non threaded hex SW11 / M8 internal thread



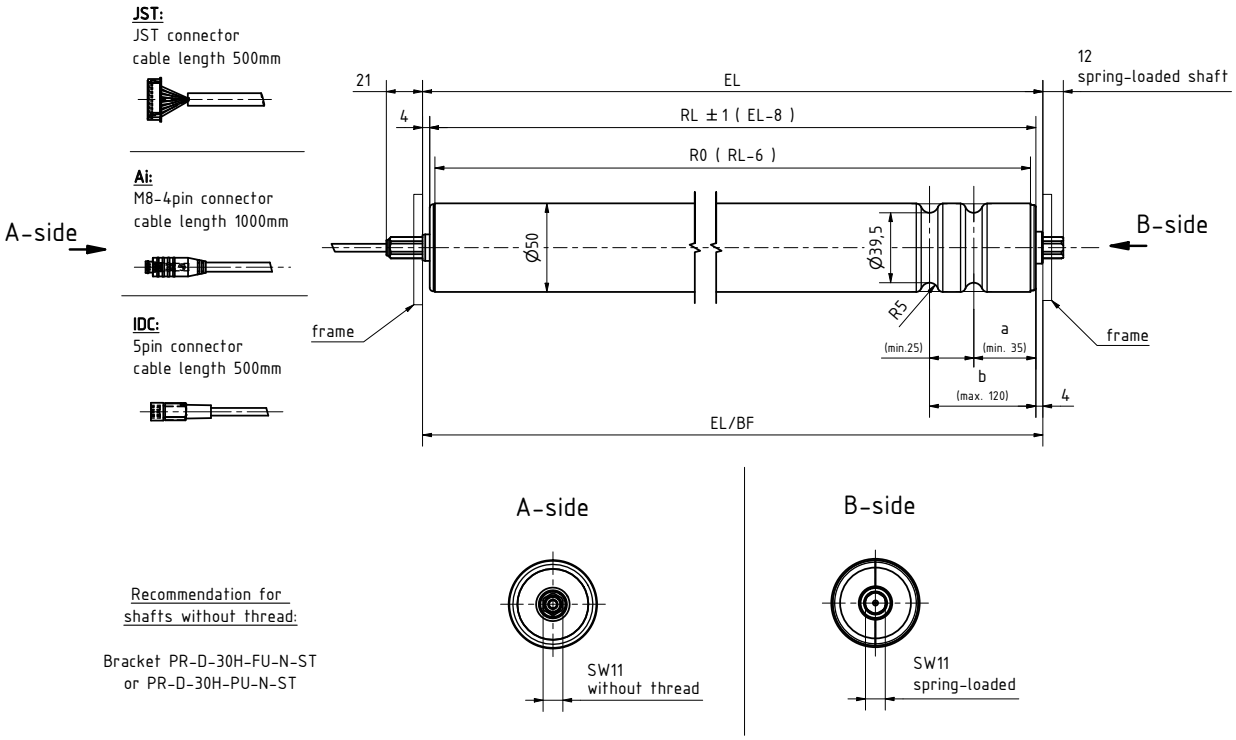
Standard (IP54), Grooved tube (1 or 2 grooves)
M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



Standard (IP54), Grooved tube (1 or 2 grooves)
M12x1,25 threaded hex SW11 / M8 internal thread



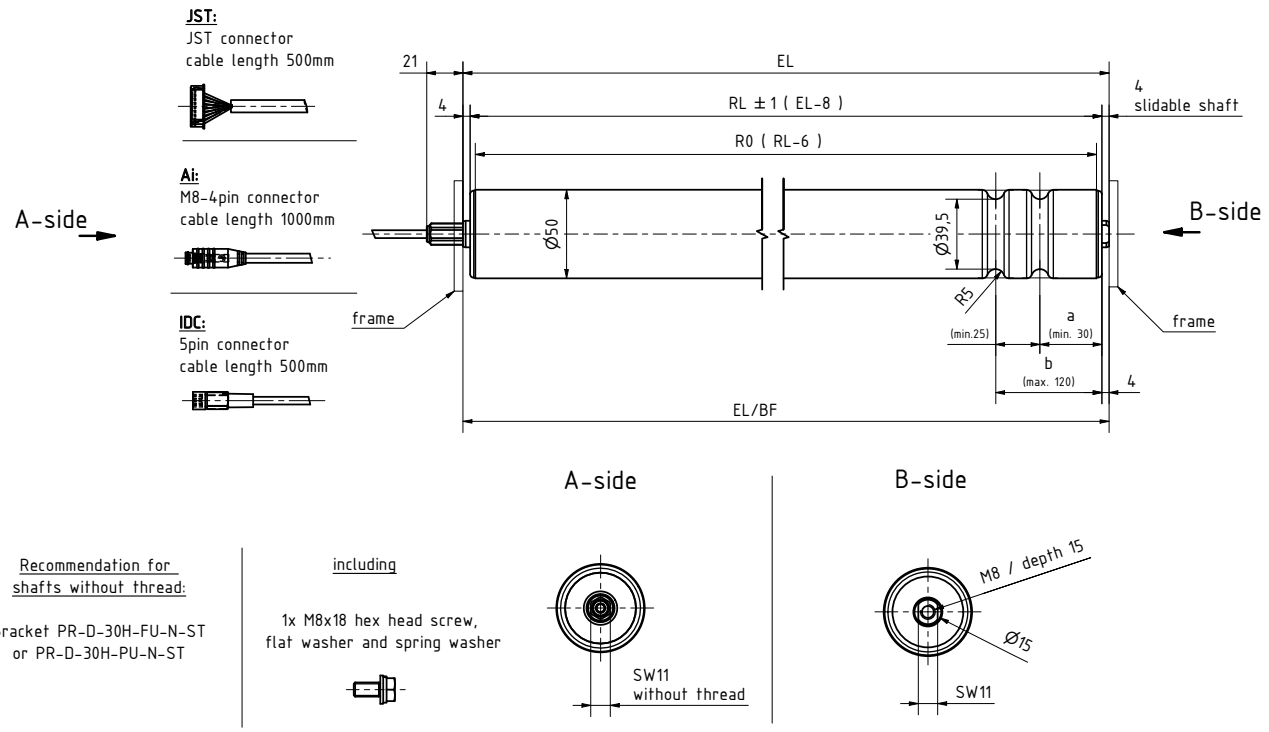
Standard (IP54), Grooved tube (1 or 2 grooves)
Non threaded hex SW11 / Spring-loaded hex SW11



Recommendation for shafts without thread:

Bracket PR-D-30H-FU-N-ST
or PR-D-30H-PU-N-ST

Standard (IP54), Grooved tube (1 or 2 grooves)
Non threaded hex SW11 / M8 internal thread



Recommendation for shafts without thread:

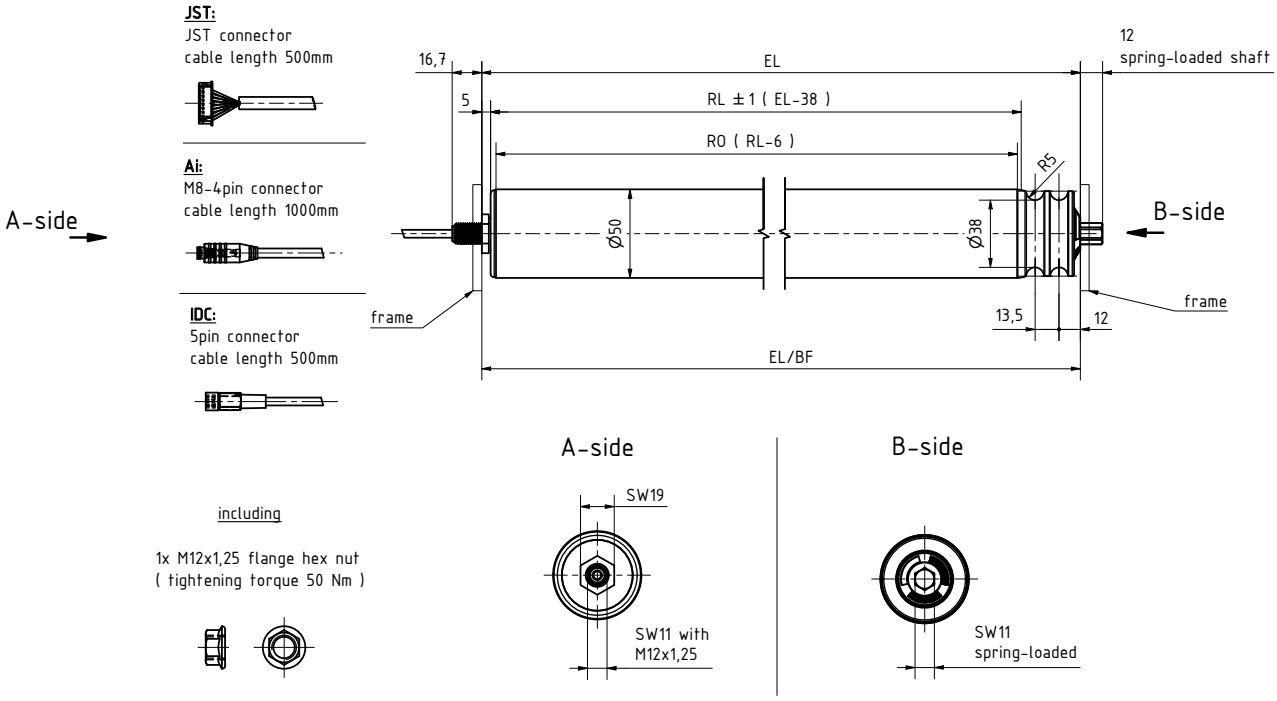
Bracket PR-D-30H-FU-N-ST
or PR-D-30H-PU-N-ST

including

1x M8x18 hex head screw,
flat washer and spring washer

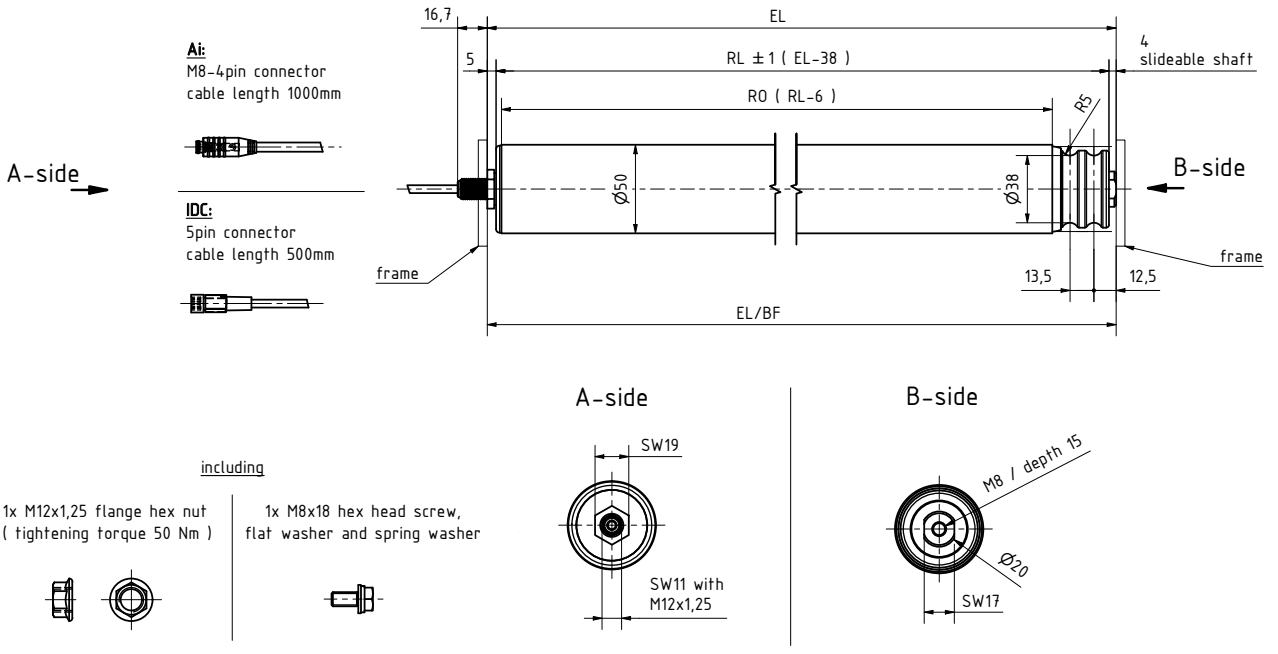
Standard (IP54), Roundbelt head

M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



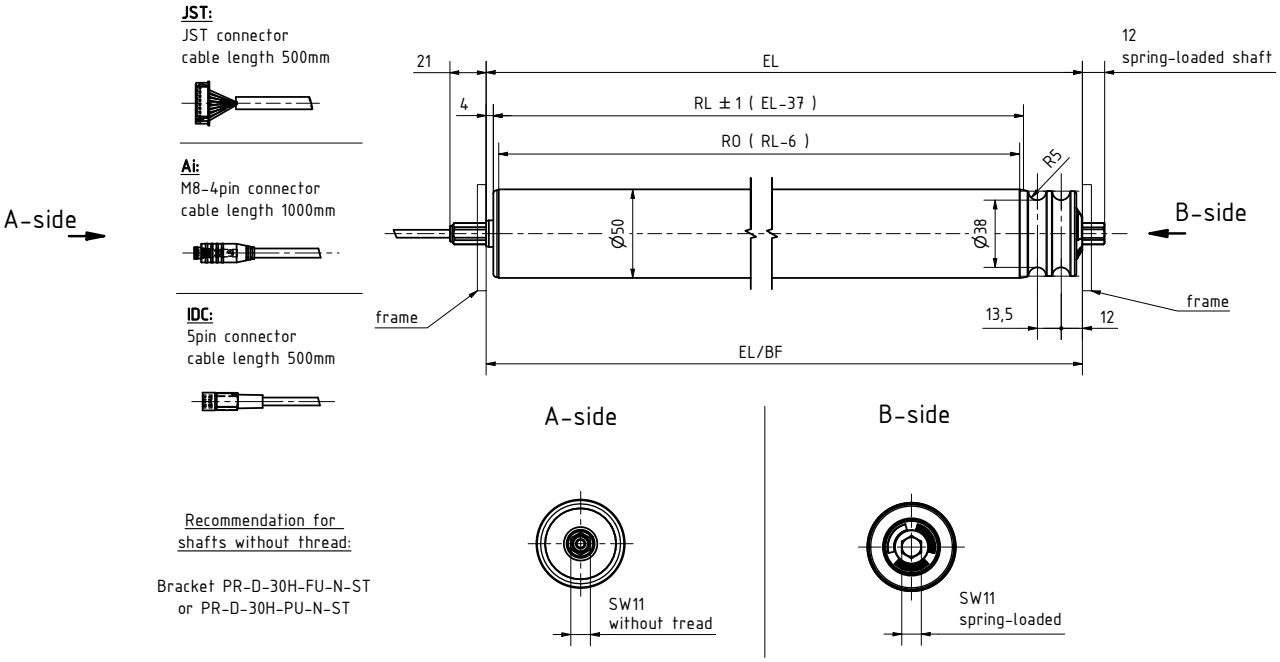
Standard (IP54), Roundbelt head

M12x1,25 threaded hex SW11 /M8 internal thread



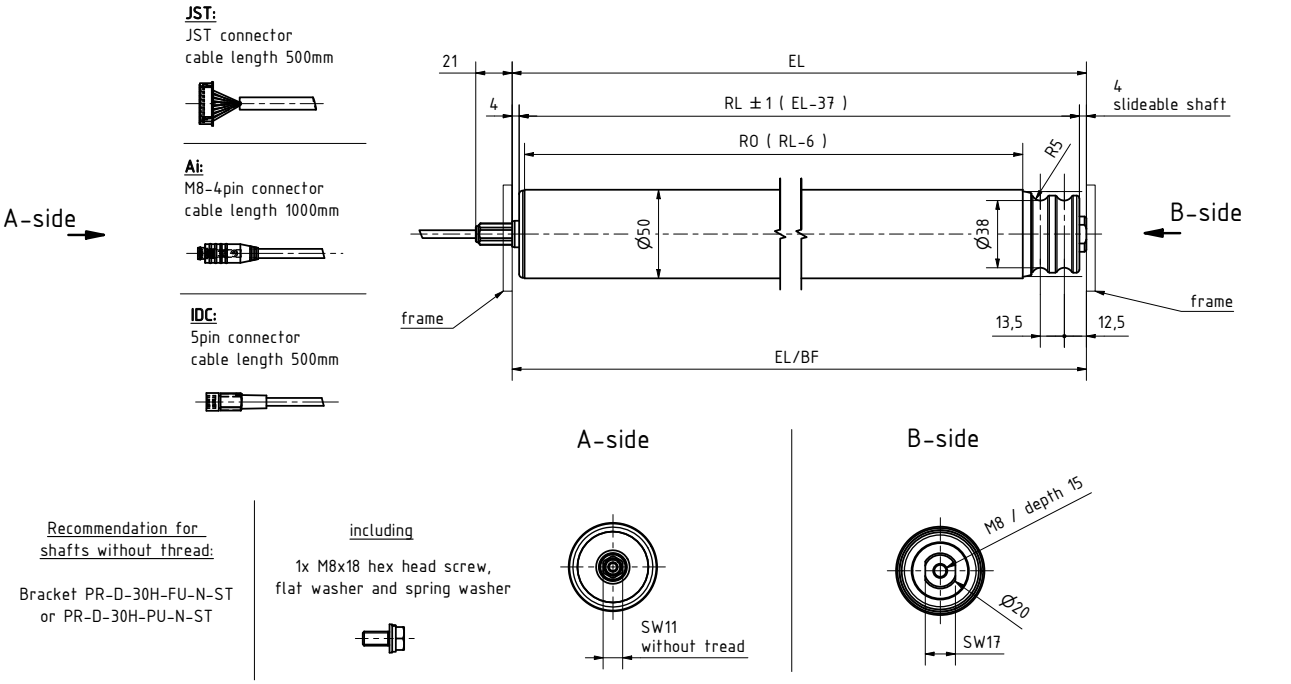
Standard (IP54), Roundbelt head

Non threaded hex SW11 / Spring-loaded hex SW11



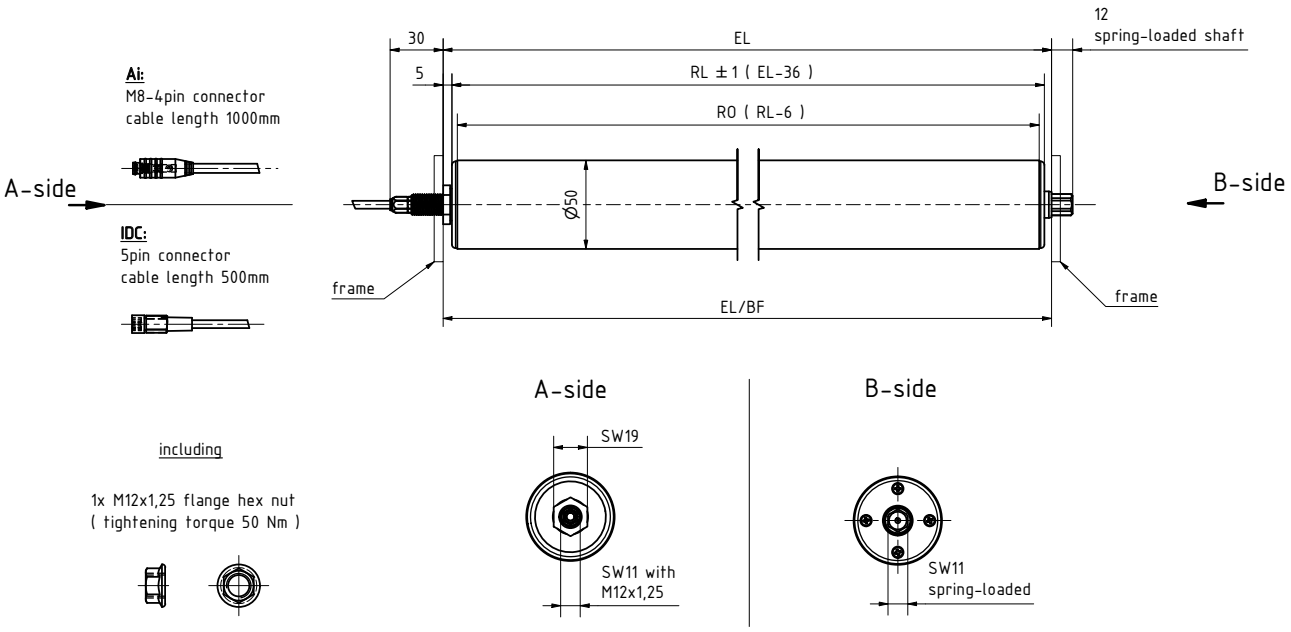
Standard (IP54), Roundbelt head

Non threaded hex SW11 / M8 internal thread



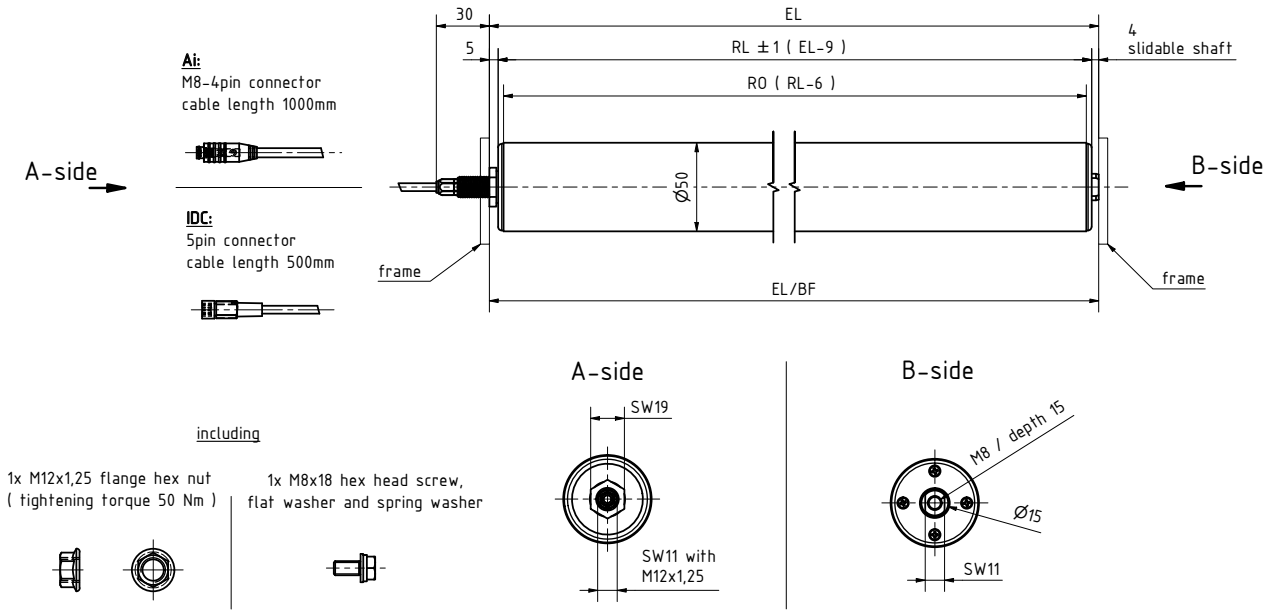
WashDown (IP66/IP69K), No interlocking

M12x1,25 threaded hex SW11 / Spring-loaded hex SW11



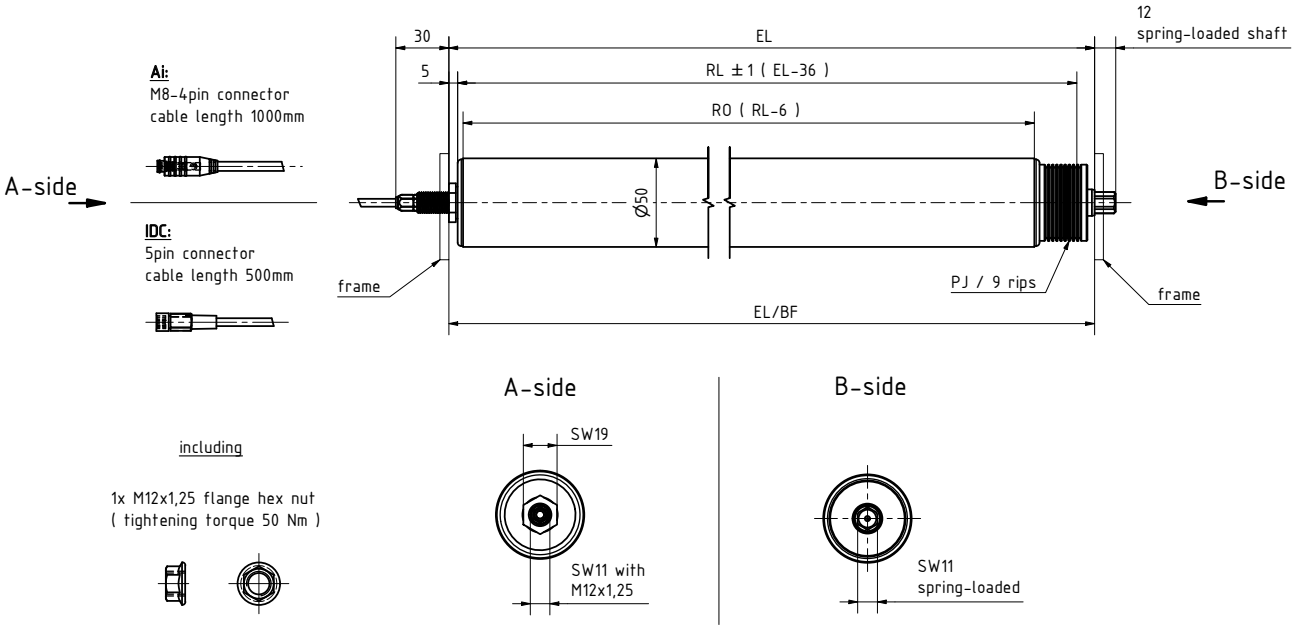
WashDown (IP66/IP69K), No interlocking

M12x1,25 threaded hex SW11 / M8 internal thread



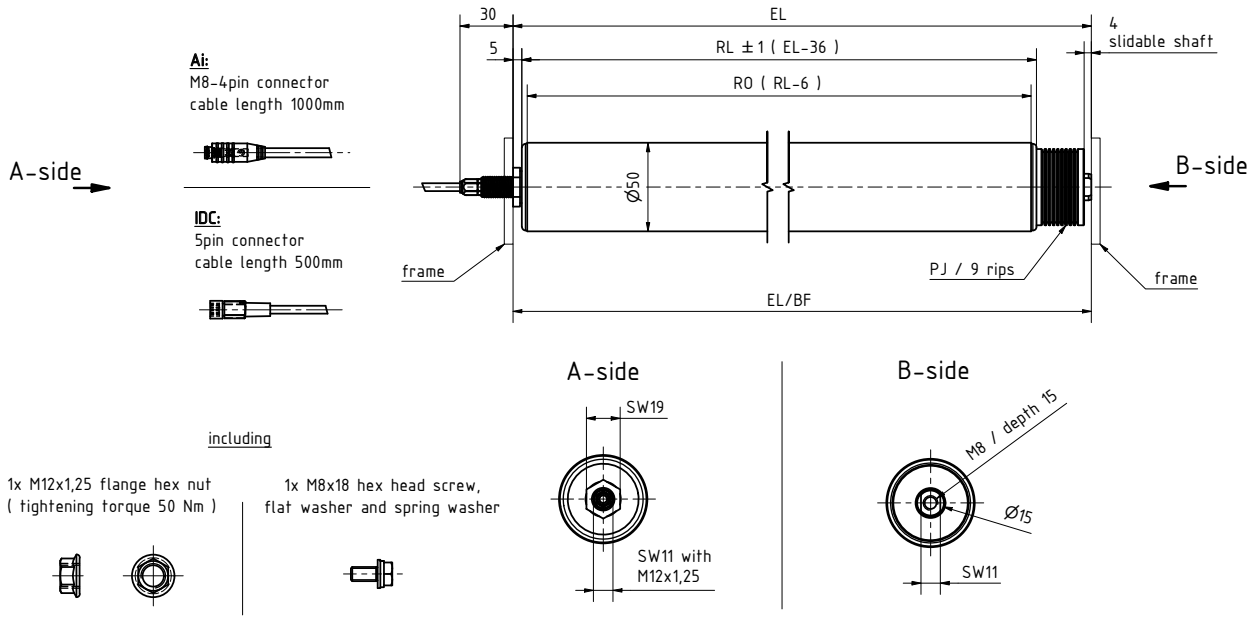
WashDown (IP66/IP69K), PolyV-Head

M12x1,25 spring-loaded hex SW11 / M8 internal thread

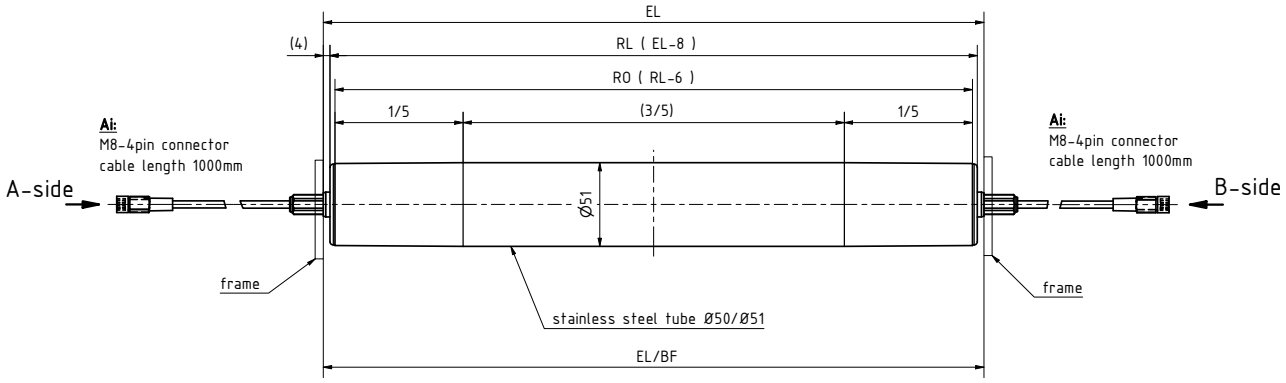


WashDown (IP66/IP69K), PolyV-Head

M12x1,25 spring-loaded hex SW11 / M8 internal thread



Dual Drive, Crowned, Stainless Steel (IP54), No interlocking



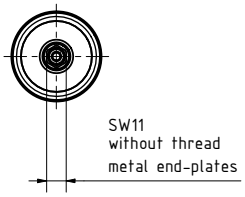
valid for:
Senergy Ai and Senergy X
PR-DD-5x-xxx-xxJxAQ

Also available with straigth tube and in IP66/IP69K and freezer rated

Recommandation: Metal end plates and shafts without thread in combination with our Brackets PR-D-30H-FU-N-ST / PU-N-ST

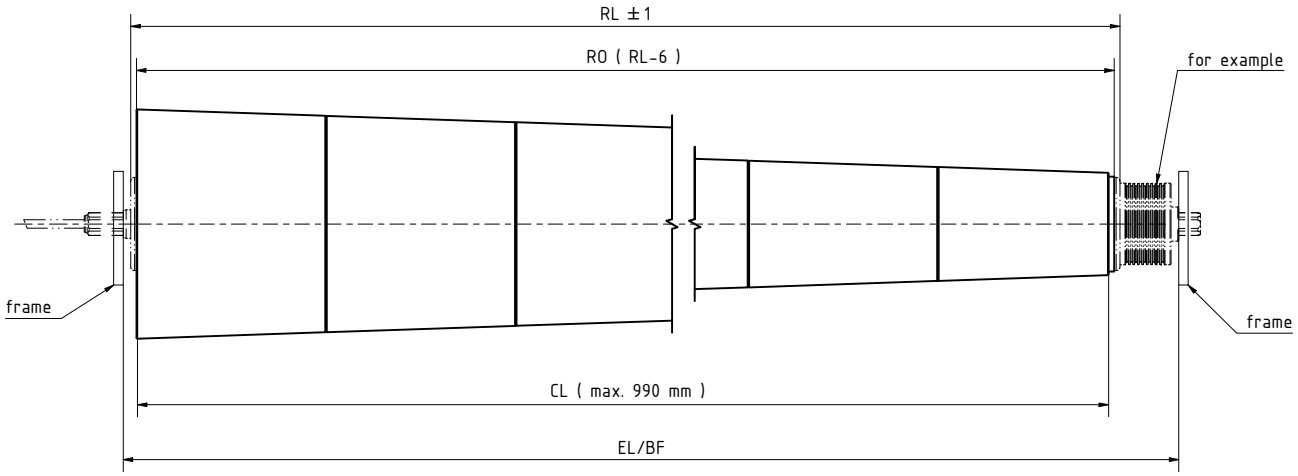
Other versions on request (Y)

A-side / B-side



Conical Roller (also available as IP54, IP66, IP69K)

1,8° conicity for roller curves



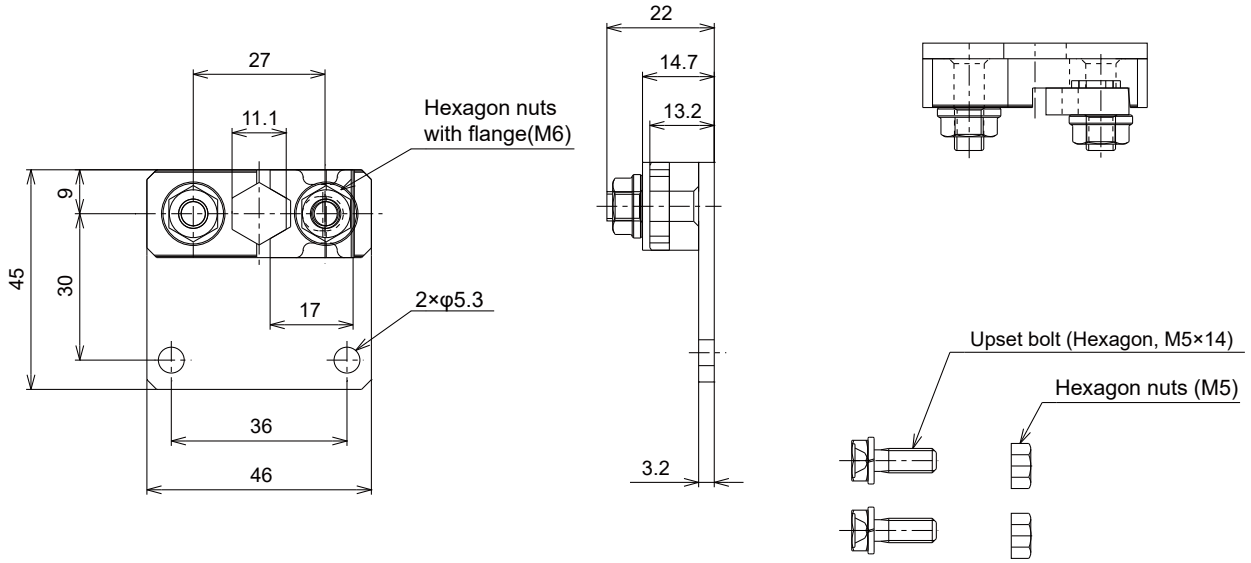
Conical segments available for all types of motors and drive heads

CL 350/390/.../950/990mm
other length on request

Recommendation: motor side with non-threaded shaft + Bracket
PR-TD-30H-FU-N-ST or PR-TD-30H-PU-N-ST

Bracket (Cable End Shaft)

Cable Side - Point-Up



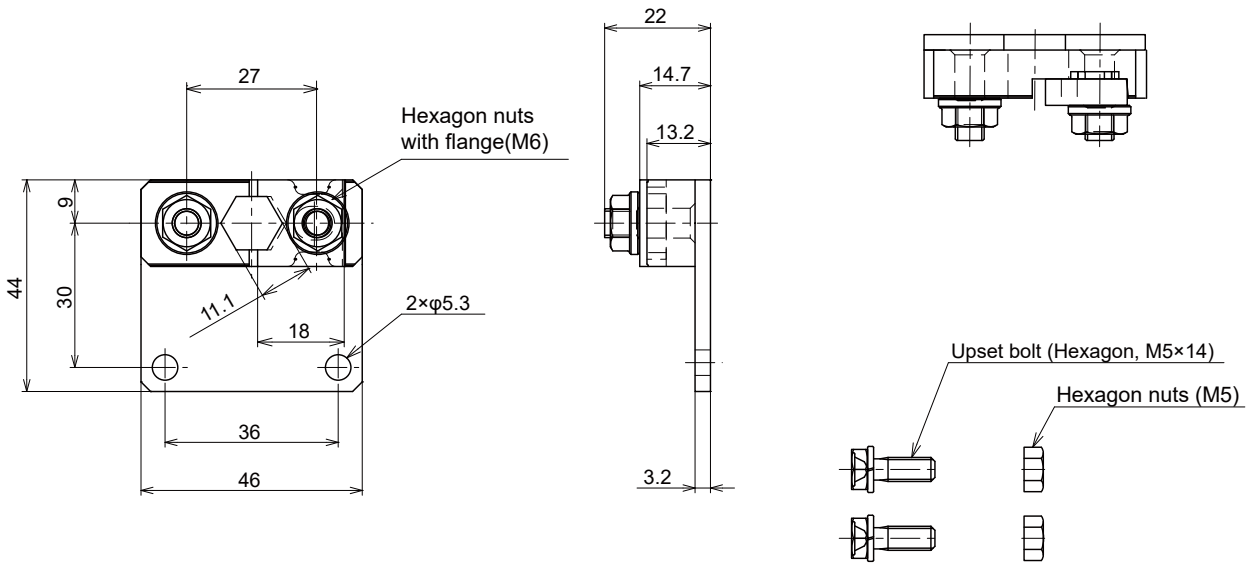
Note:

Tightening torque (M6): 8 ~ 10 Nm

Tightening torque (M5): 2,3 ~ 3,5 Nm

Bracket (Cable End Shaft)

Cable Side - Flat-Up



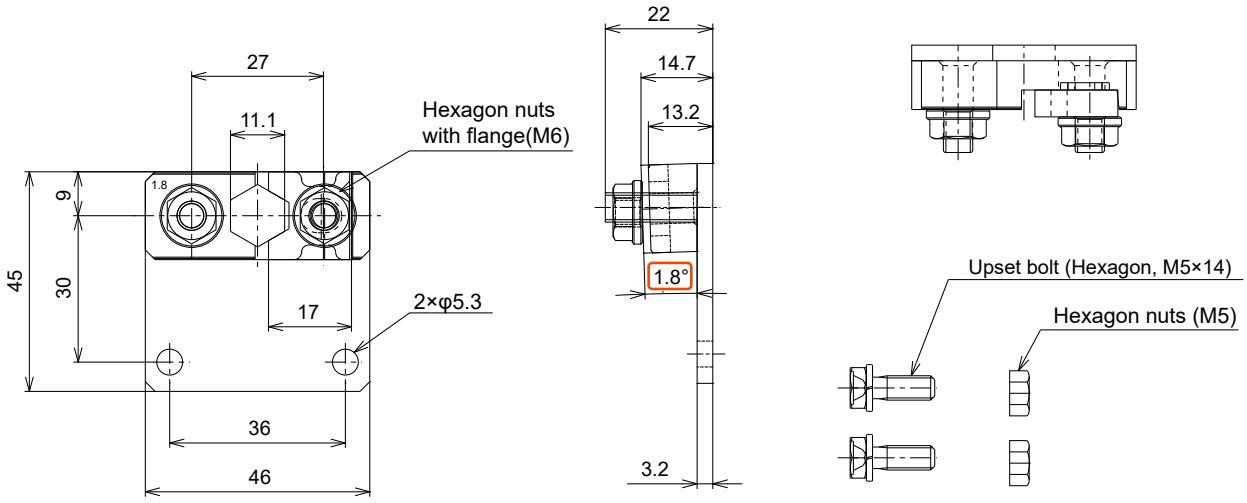
Note:

Tightening torque (M6): 8 ~ 10 Nm

Tightening torque (M5): 2,3 ~ 3,5 Nm

Bracket for Conical Roller (Cable End Shaft)

Cable Side - Point-Up



Note:

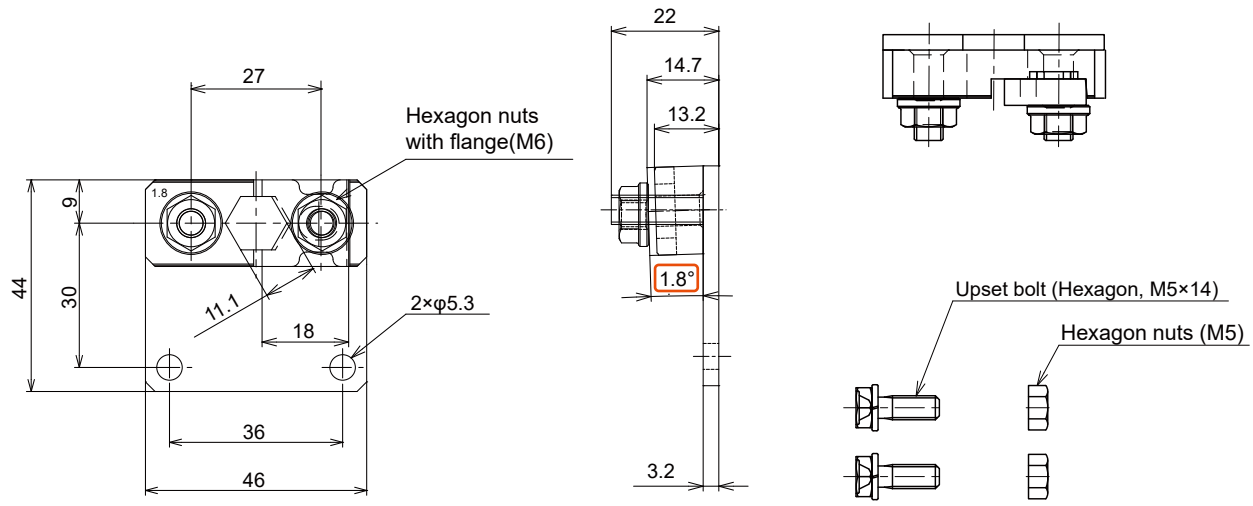
Tightening torque (M6): 8 ~ 10 Nm

Tightening torque (M5): 2,3 ~ 3,5 Nm

Brackets are designed for 1,8 degree Tapered rollers only and NOT intended for any other Taper angle.

Bracket for Conical Roller (Cable End Shaft)

Cable Side - Flat-Up



Note:

Tightening torque (M6): 8 ~ 10 Nm

Tightening torque (M5): 2,3 ~ 3,5 Nm

Brackets are designed for 1,8 degree Tapered rollers only and NOT intended for any other Taper angle.

Learn more about us!

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