SR industry

Stellareisen

SR Industrial Automation

Comprehensive Converting Industry Solutions

www.SR-Brake.com

To be Best

End

Why Choose SR Industrial Automation?

- Leading Core Technologies
- High Quality Components
- Optimized Structural Design

High-performance cooling system from professionally developed high-speed, high-heat-dissipation alloy fans.

High-precision, highly responsive torque control thanks to superior structural design and strict quality control.

Long service life & minimal maintenance costs due to effective protective design and modular components.

SR is a premium Chinese manufacturing brand developed by a CAS (Chinese Academy of Sciences) technical team, committed to providing integrated system solutions for industrial automation.

Pneumatic Brakes

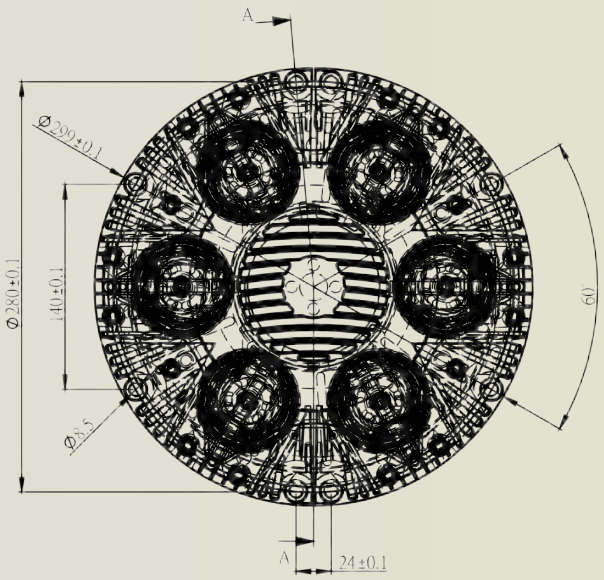
The SATURN Series Brakes feature a revolutionary design with lightweight yet high-strength brake discs and special alloy variable-frequency cooling fans, delivering low noise and ultra-high heat dissipation. Functions like temperature control, speed regulation, and alarm systems make them an effective solution for automated production lines.

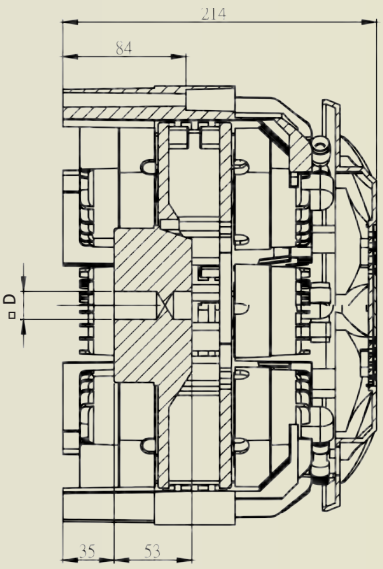
The innovative design of SATURN Pneumatic Brakes effectively prevents tension loss due to overheating, while the patented low-dust, asbestos-free brake pads ensure precise performance across various working conditions, reducing costs and improving efficiency.

The unique lotus-shaped housing integrates the fan, dust-proof mechanism, and air hose connectors, providing impact resistance to enhance durability, minimize maintenance, and maximize operational efficiency.

With high-temperature-resistant seals and high-quality structural components, the multi-friction-coefficient caliper sets allow precise tension control and reliable emergency braking. Whatever your application—whether unwinding frames or other industrial scenarios—there’ s a SATURN brake model to match.

SR.251.





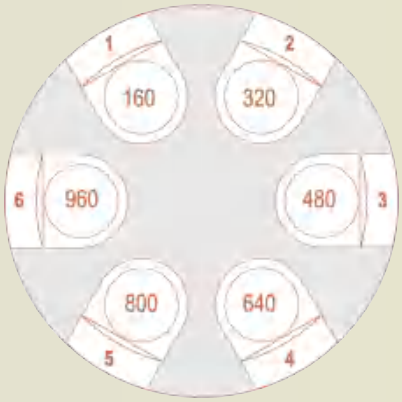
Ø"D" max

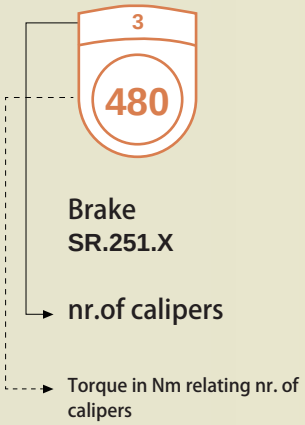
50

with taper lock

70

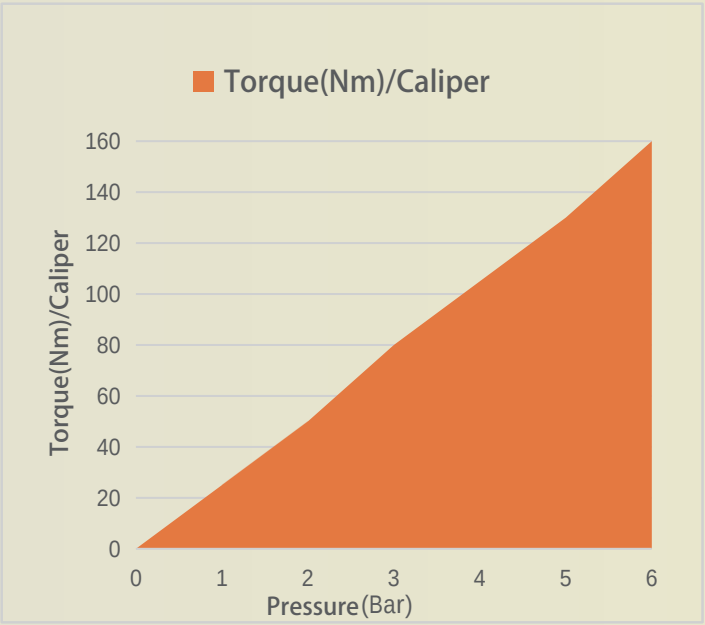
with key





Performance	
Torque Max. 1 caliper	160Nm*
Torque Min. 1 caliper	1.5Nm*
Pressure Min./Max.	0.3/6Bar
Max.disc rpm	2500
Total weight	21kg

*Torque values relate to dynamic slipping



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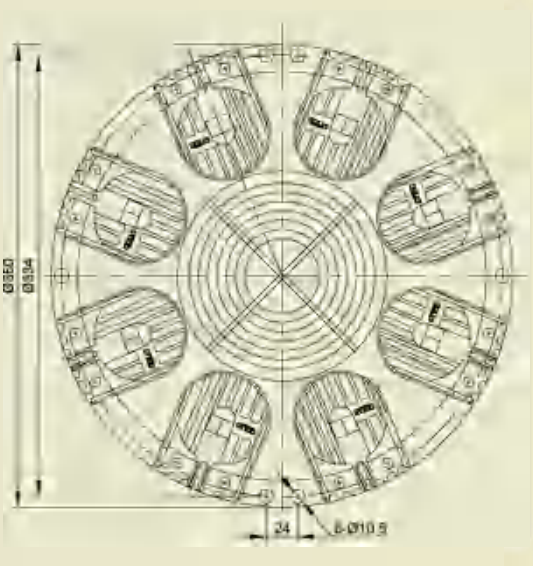
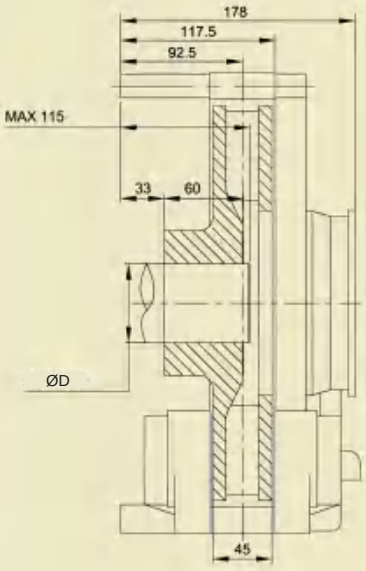




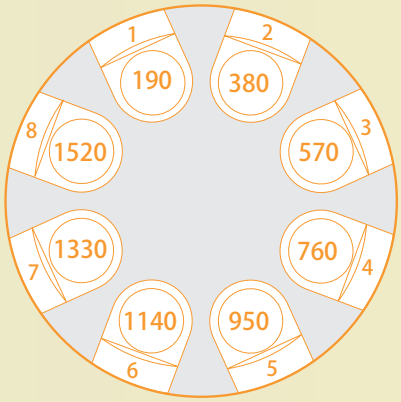
Ø"D" max

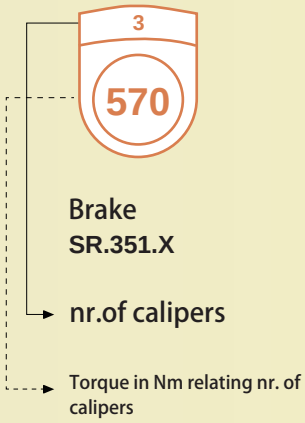
65

with taper lock

80

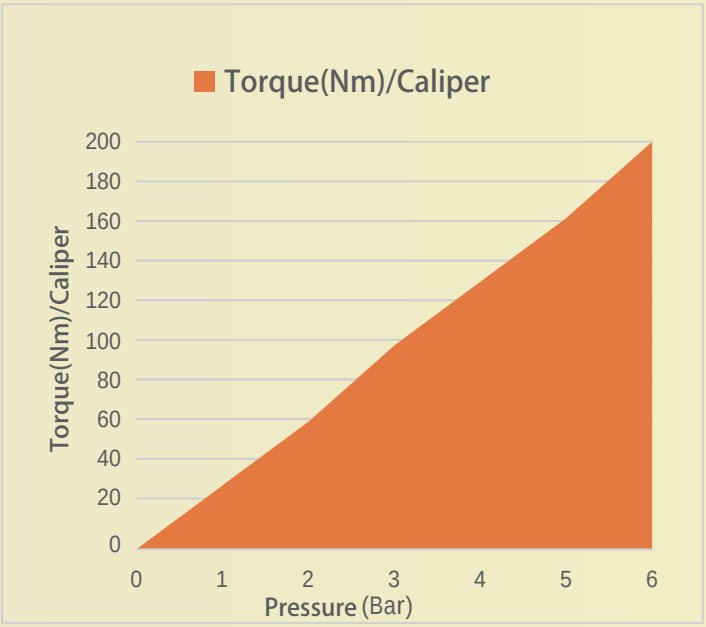
with key





Performance

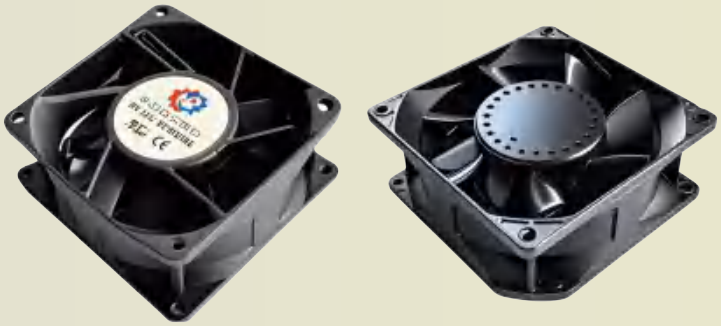
Torque Max. 1 caliper	190Nm*
Torque Min. 1 caliper	1.6Nm*
Pressure Min./Max.	0.3/6Bar
Max.disc rpm	2000
Total weight	26kg
Inertia disc	0.09Kgm²



Spare Parts

SATURN COOLING FAN

SR's independently developed 24V variable-frequency alloy fan features dual protection with chip coating and protective film, effectively preventing short-circuit damage caused by dust, high-temperature moisture, and other contaminants. Combined with its temperature control, thermal switch, and anti-startup surge voltage impact design, it significantly extends service life while reducing spare parts costs.



SATURN BRAKE PAD

The Bosch-patented friction plates, with 100% raw materials sourced from European OEM suppliers, are precision-engineered for specific operating conditions across different models. This tailored approach ensures premium quality while eliminating waste and reducing energy consumption, delivering significant cost-efficiency improvements.

SATURN BRAKE DISC

The SATURN Series brakes utilize lightweight yet high-strength brake discs with bidirectional heat dissipation for rapid cooling, ensuring precise tension control. Manufactured with rigorously selected materials and strictly controlled processes, they significantly reduce brake pad wear.

MARS DIGITAL TENSION CONTROLLER

Equipped with cutting-edge digital technology, it is compatible with various signal sensors, including floating rollers and diameter sensors. The input signals are processed through dedicated PID algorithms to control pneumatic brakes/clutches and magnetic particle brakes/clutches with precision.

Tension Control Syetem

VENUS TENSION AMPLIFIER

The system acquires signals from tension sensors, amplifies them into standardized tension control signals, and outputs them to PLCs, computers, or other types of controllers.

MARS 200

The MARS 200 represents our company's latest innovation in automatic tension control systems.

Equipped with a high-performance microprocessor and large-scale integrated circuits

Utilizes advanced PID control algorithms

Delivers precise and reliable constant tension control

Features and Functions

1.High-speed micro CPU & advanced algorithms for superior performance in all applications

2.LCD (CN/EN) & intuitive HMI for easy parameter adjustment

3.Robust metal housing - dustproof & EMI-resistant

Power	DC24-36V
Output Current	Max 5A
Input Signal	±32mV Differential Signal
Ambient Temperature	-15-50℃
Ambient Humidity	35-85RH
IP Class	IP53
Weight	0.4KG
Mounting Type	Flush Mounting

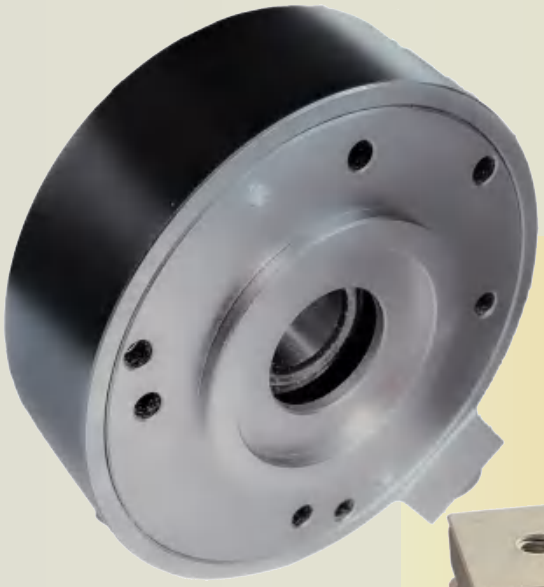
VENUS TENSION AMPLIFIER

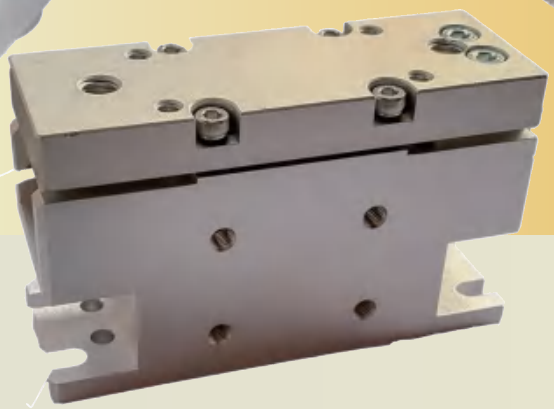
Venus Tension Amplifier features compact DIN rail/desktop mounting, combining signal amplification with real-time display. Its integrated control panel enables quick calibration and parameter adjustment.

Features

- ★ Accepts mV/mA from various tension sensors
  Jumper-selectable input types on PCB
- ★ Wide calibration/zeroing range
- ★ Supports up to 4x mV-type sensors simultaneously
- ★ 4-digit blue LED display
- ★ Auto-calibration via auxiliary processor
  (no manual adjustment)
- ★ Selectable 0-10V or 4-20mA analog output
  (No D/A conversion lag)
- ★ Adjustable digital filtering for 0-10V output
- ★ 2x configurable digital alarms (NO solid-state relays)
- ★ Compact size support DIN rail or desktop mounting
- ★ RS485 interface for remote configuration

LOAD CELL



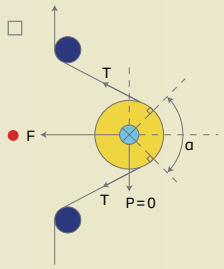


MERKUR SERIES LOAD CELL

The MERKUR Load cell, featuring metal foil strain gauges and a Wheatstone full-bridge design, delivers exceptional precision, linearity, reliability, and instant response for paper, film, foil, wire, and web applications. With robust overload protection and standard flange/through-shaft mounting options, it seamlessly pairs with VENUS amplifiers or MARS controllers for complete tension solutions.

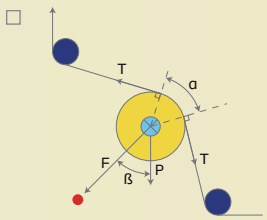
Guide for Load Cell Selection

●	—	Resultant Direction
⬆	—	Reading direction
α	—	Winding angles[degrees]
F	—	Resultant on cell [N]
Ft	—	Force of tension [N]
Fl.c.	—	Force per load cell [N]
T	—	Total tension of web [N]
P	—	Roll weight [N]



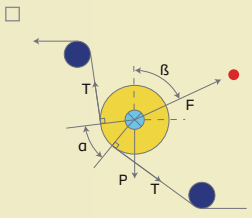
$F = T \sin \alpha / 2$

Horizontal resultant
Horizontal resultant is the best configuration for load cells, since it does not detect the weight of the roller. That configuration is recommended for low web tension



$F = T \sin \alpha / 2 + P/2 \cos \beta$

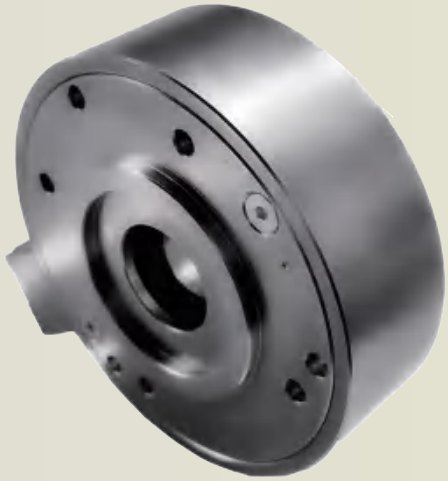
Downward resultant
In the configuration with downward resultant the weight of the roller (P)supplies a positive signalwhich will be considered the tare. For a zero-set electrically subtract the roller weight value.



$F = T \sin \alpha / 2 - P/2 \cos \beta$

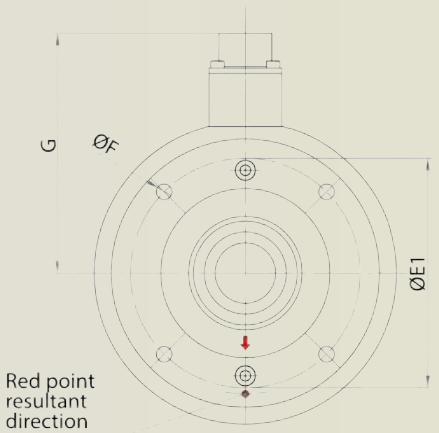
Upward resultant
In the configuration with upward resultant the weight of the roller (P) supplies a negative signal which will be considered as the tare and must be electrically reduced to "zero" during load cell calibration.

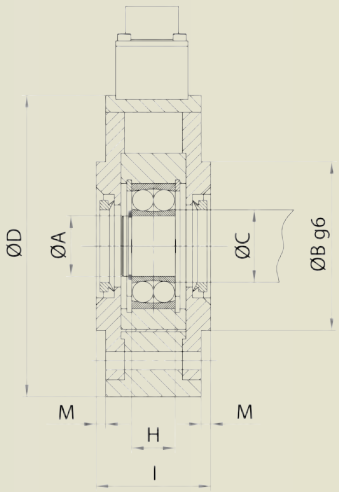
KM Series Flange Mounting Load Cell (With Through Hole)

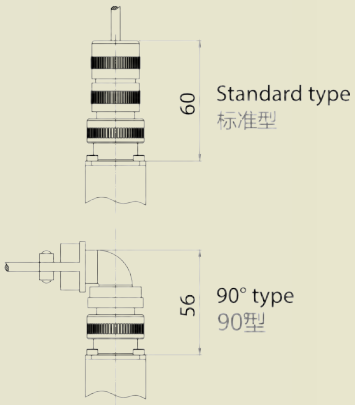


The KM series Flange mounting load cell enable precise, continuous real-time tension measurement for moving webs, minimizing downtime and enhancing product quality. Mounted at both ends of measuring rollers, they accurately detect the resultant force of wrap angles while their self-aligning bearings reduce roller deflection for improved accuracy and reliability - all in a compact design that saves installation space and setup time.

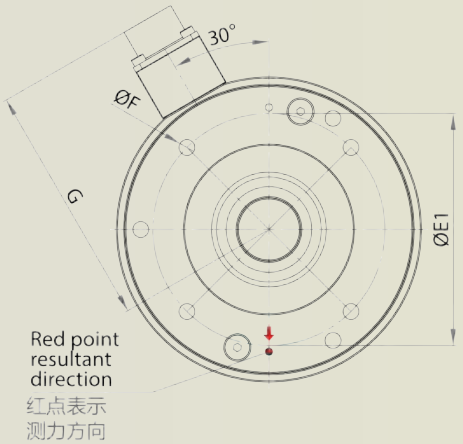
KM Series

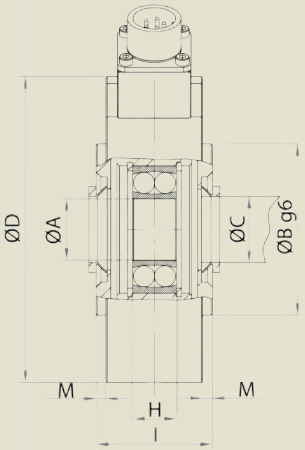


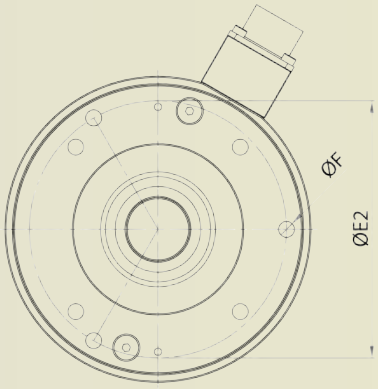




KM125 Series





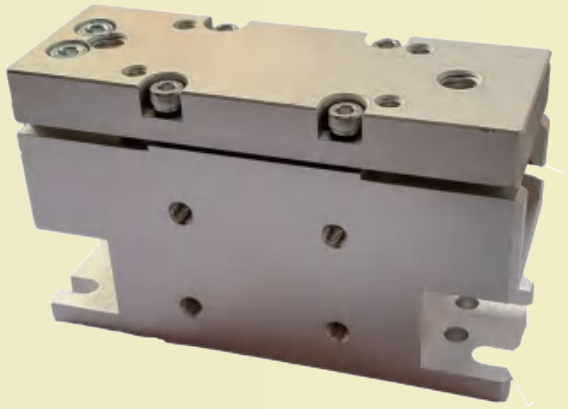


Code	Material	Dimensions mm/尺寸mm											
编号	材质	A	B	C	D	H	I	G	E1	E2	F	M	Load
KM105.15.17	Steel/钢制	17	60	22	105	16	38	88	90	-	6.5	3	150
KM105.25.17													250
KM105.50.17													500
KM125.50.25	Steel/钢制	25	70	31	125	18	47.5	99	105	95	6.5	4	500
KM125.75.25													750
KM125.100.25													1000
KM125.150.25													1500
KM175.100.35	Steel/钢制	35	100	44	175	23	65	123	145	135	8.5	4	1000
KM175.150.35													1500
KM175.300.35													3000
KM225.300.50	Steel/钢制	50	130	58	225	23	75	148	195	175	10.5	4	3000
KM225.600.50													6000
KM225.1000.50													10000

Technical data			
Accuracy class	0.20%	Measurement Principle	Strain Gauge Full-Bridge Measurement
Sensitivity	1.5mV / V	Operating Temperature Range	-10℃—60℃
Excitation Voltage	5~15V	Selectable Output Current	4-20mA
Maximum Overload (Load Direction)	150%	IP Class	IP54

BM Series Base Mounting Load Cell

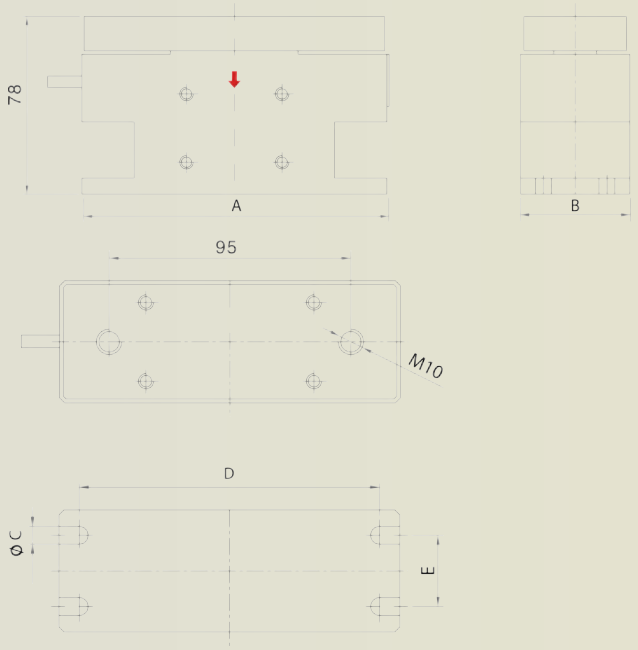
The BM Base mounting Load cell delivers an ideal solution for composite/converting applications requiring base-mounted fixation, featuring shock/overload resistance without compromising precision or longevity (aluminum/steel construction). With required pedestal bearings, it serves paper machines, calenders, and quality-driven coating equipment across 200N-2000N tension ranges.



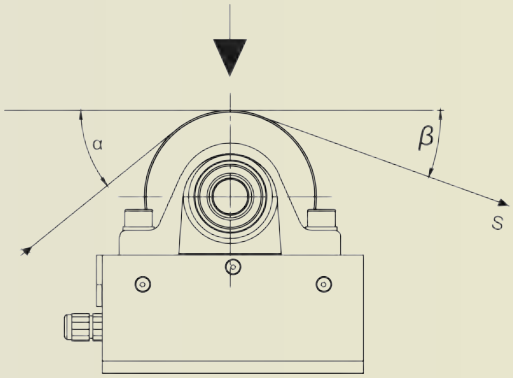
BM150.50.XX

Load xx N

Load Cell Code



Selection Code	Load	A	B	C	D	E
BM150.20	200	134	48	7	118	28
BM150.50	500	134	48	7	118	28
BM150.100	1000	134	48	7	118	28
BM150.200	2000	134	48	7	118	28



Technical data			
Accuracy class	0.20%	Measurement Principle	Strain Gauge Full-Bridge Measurement
Sensitivity	<0.05% Full range	Operating Temperature Range	-10℃—50℃
Excitation Voltage	5~15V	Selectable Output Current	4-20mA
Maximum Overload (Load Direction)	150%	IP Class	IP54

FM Series Flange mounting Load Cell

The FM flange-mounted Load Cell, installed at both ends of measuring rollers, accurately detect web tension as materials wrap around the roller at specific angles. Their compact design enables installation in tight spaces, while offering simple operation and high reliability for diverse industrial applications.

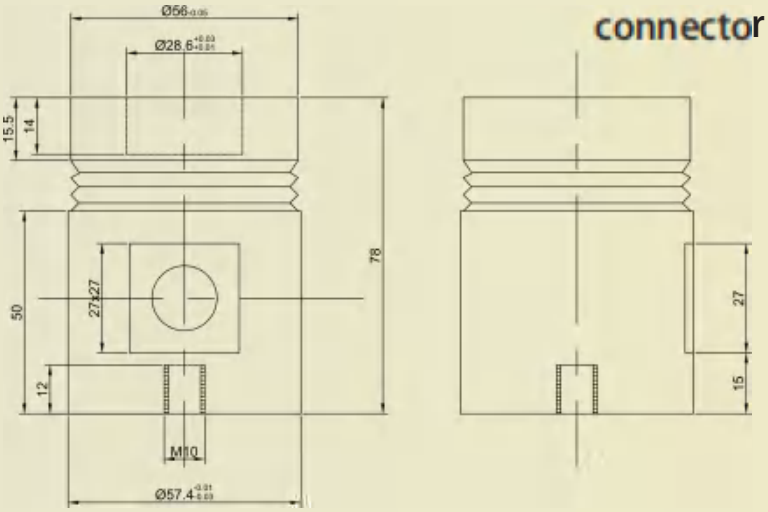
Technical data			
Accuracy class	0.20%	Measurement Principle	Strain Gauge Full-Bridge Measurement
Sensitivity	1.5mV / V	Operating Temperature Range	-10℃—60℃
Excitation Voltage	5~15V	Selectable Output Current	4-20mA
Maximum Overload(Load direction)	150%	IP Class	IP 42

FM60 Series Flange mounting Load Cell

The FM 60 dual-arm Load Cell series delivers unmatched performance and reliability, featuring a patented dual-arm design that reduces deflection by over 66% compared to conventional models. This minimized deflection mitigates tracking/steering issues while enhancing control precision. Available in two industry-standard sizes with multiple load capacities, it sets the benchmark for tension measurement accuracy.

Advantages

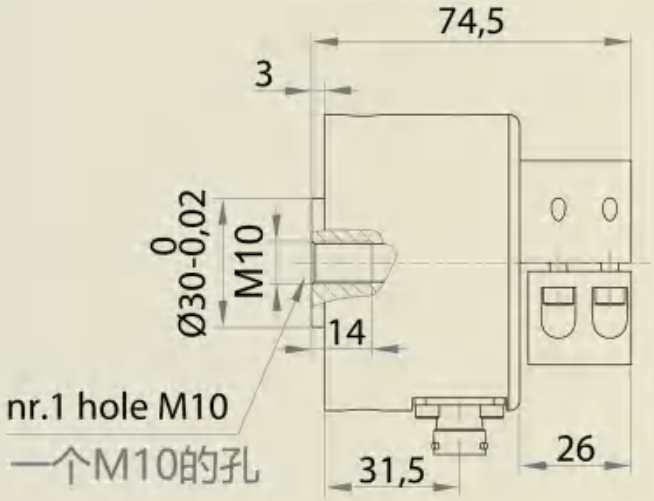
- Compact stainless-steel body
- Dual parallel beam arm design ensures high output with minimal deflection.
- Dual-arm design achieves minimal deflection.
- Optional semiconductor or foil strain gauges
- Equipped with an industry-standard M10x1 connector featuring a rotatable socket



Code	Load (N)
FM 60.25	250
FM 60.50	500
FM 60.100	1000

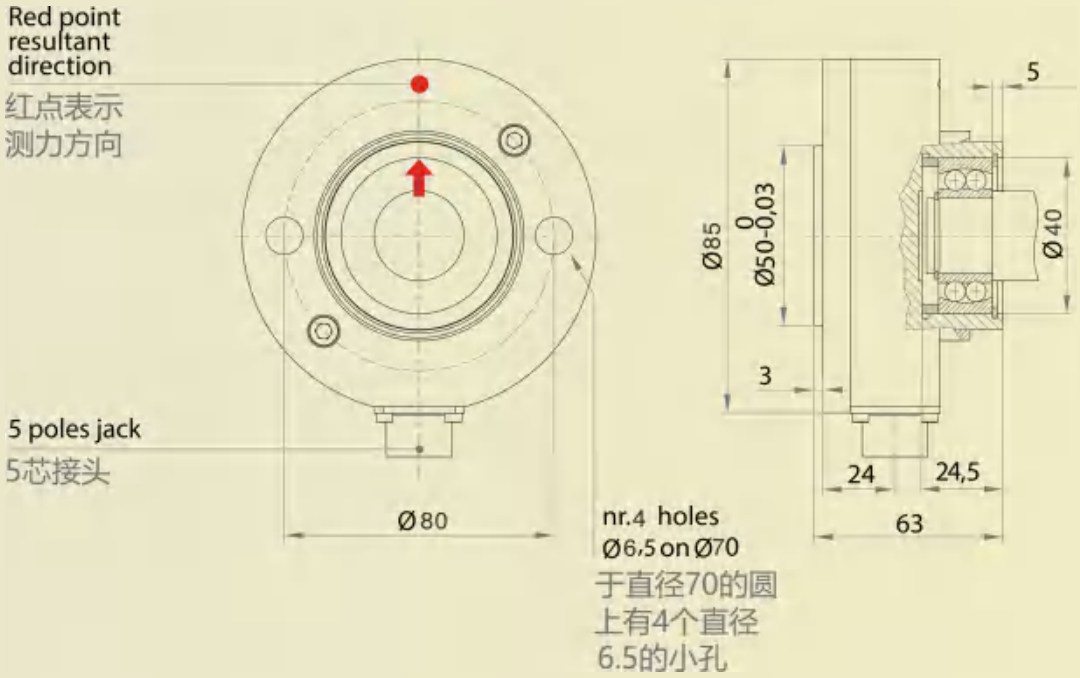
FM70 Series Flange mounting Load Cell

Code	Load(N)
FM70.25.25	250
FM70.50.25	500
FM70.100.25	1000



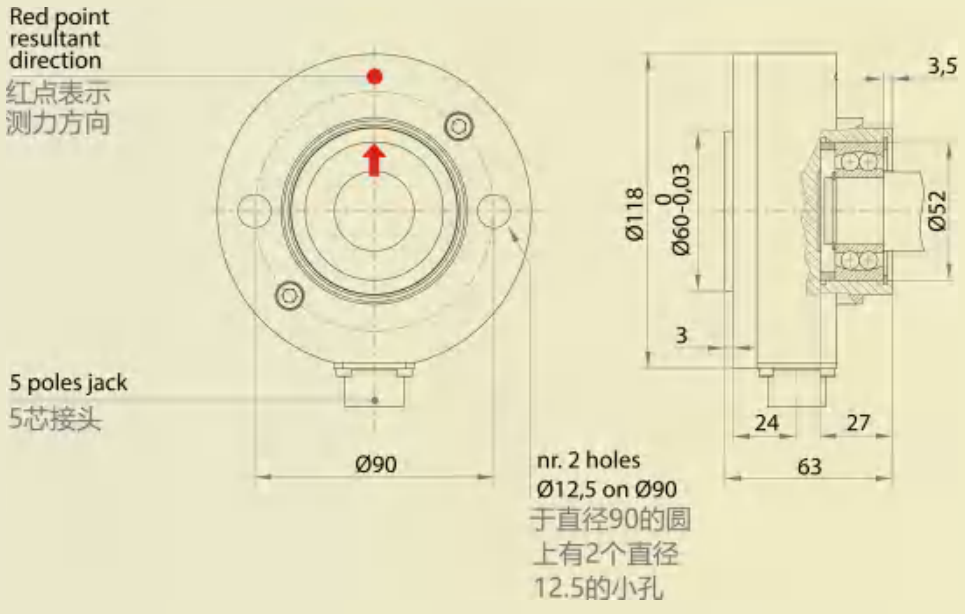
FM80 Series Flange mounting Load Cell

Code	Bearing Size (2203-2RS)	Load (N)
FM 80.15.40	Φ 17 x 40 h 16 2RS	150
FM 80.25.40	Φ 17 x 40 h 16 2RS	250
FM 80.50.40	Φ 17 x 40 h 16 2RS	500
FM 80.100.40	Φ 17 x 40 h 16 2RS	1000



FM90 Series Flange mounting Load Cell

Code	Bearing Size (2205-2RS)	Load (N)
FM90.25.52	Φ25 × 52 h 18 2RS	250
FM90.50.52	Φ 25 x 52 h 18 2RS	500
FM90.100.52	Φ25 x 52 h 18 2RS	1000
FM90.200.52	Φ25 x 52 h 18 2RS	2000



Application


富士机械工业株式会社
FUJI KIKAI KOGYO CO.,LTD.


KESHENG

To be Best

To the End

SR industry

www.sr-brake.com

info@sr-brake.com

Hexuan Road, Jiading District, Shanghai, China.
Building 11, New Materials Industry Base, Shengze Town,
Suzhou City, Jiangsu Province, China.

+86 18158535899(WhatsApp)