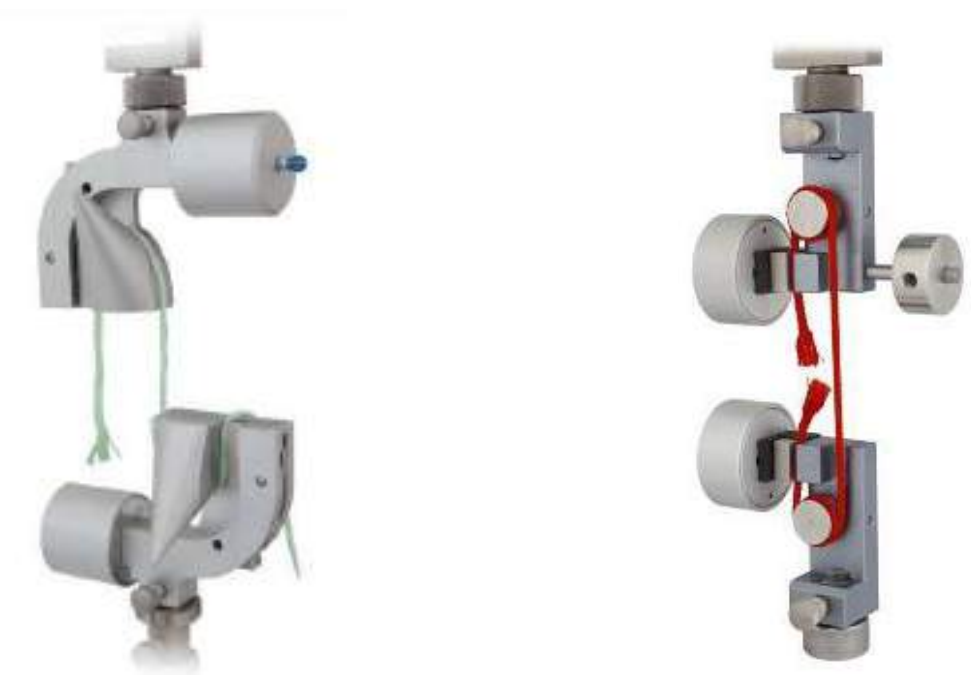


PNEUMATIC BOLLARD GRIPS FOR TENSILE TESTS



Pneumatic Bollard Grips MBC-N series (0,2-5 kN) and MBN (1-20 kN)
Models MB-N/2.5-Ko (1 piston) and MBN/2.5+2Ko (2 pistons) 2.5 kN
Model MBZ-N/5+Ko (2.6 kN) - MBS-N series (20-50 kN)

Standard and 180° Disc/Bollard Grips, easy to use and applicable to perform **tensile tests** on samples of materials that are difficult to clamp (**ropes, narrow bands, cords, fine threads, strands, filaments, cables and fine wires...**)

CONTENT

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180° Pneumatic Bollard Grips MBC-N series of 0,2-5 kN capacity

180° Bollard Clamps, easy to use and applicable to perform **tensile tests** on samples of materials that are difficult to tie (**CORDS, FINE WIRES, STRANDS, FILAMENTS, CABLES AND FINE WIRES ...**)



GENERAL INFORMATION

Bollard grips are suitable for perform tensile strength tests on a wide range of samples, such as fine yarns, filaments, threads, cords, fine cables....

A central slotted guide horn allows 180 ° redirection of the specimen. Sample breakage in the clamping area is prevented by generating a slow stress relief notch.

All pneumatic grips are suitable for use with the foot pedal and hand controls

MODEL	MBC-N/0,2	MBC-N/2 y MBC-N/2+SSB**	MBC-N/5 y MBC-N/10
Suitable for:	Threads, Filaments, Fibers ...	Threads, cords, strands, etc.	Wires, strands, cords, etc .
Maximum load:	200N / 7 Bar	5 Kn / 7 Bar	5 kN / 7 Bar
Clamping force:	880 N	1,9 kN (MBC-N/2) 6 kN (MBC-N/2+SSB)	6 kN (MBC-N/5) 16 kN (MBC-N/10)
Recommended specimen Ø:	0-1 mm Ø	0-2 mm Ø	0-3 mm Ø
Minimal specimen length:	150 mm	250 mm	300 mm
Jaw surfaces:	Blank jaws (MC-N/0,2) Serrated jaws (MC-N/0,2+BD)	Blank jaws (MC-N/2) Serrated jaws (MC-N/2+BD)	Blank jaws (MC-N/5) Serrated jaws (MC-N/5+BD)
Clamping surface:	6 x 20 mm	12 x 36 mm	15 x 44 mm
Temperature range*:	-10 to +70 °C -70 to +180°C Possible with Viton seal and Teflon tubes; other temperature ranges on request		
Pneumatic Connection:	M3 for micro-fittings or with additional adapter (PK23) for 1/8 "normal pneumatics	Internal thread M5	Internal thread M5
Body grip:	Aluminium, anodized	Aluminium, anodized	Aluminium, anodized
Bollard:	Aluminium, anodized	Aluminium, anodized (standard) Stainless Steel (MBC-N/2+SSB)	Aluminium, anodized (standard) Stainless Steel (MBC-N/5+SSB)
Weight per grip: (including jaws)	0,15 Kg	1,13 Kg (MBC-N/2) 1,25 Kg (MBC-N/2+SSB)	1,82 Kg (MBC-N/5) 2,22 Kg (MBC-N/10)
Scope of delivery:	1 Pair of Grips (without jaws)		

* Other temperature ranges, please request

** SSB Stainless Steel Bollard



Blank jaws
Smooth steel
without cover



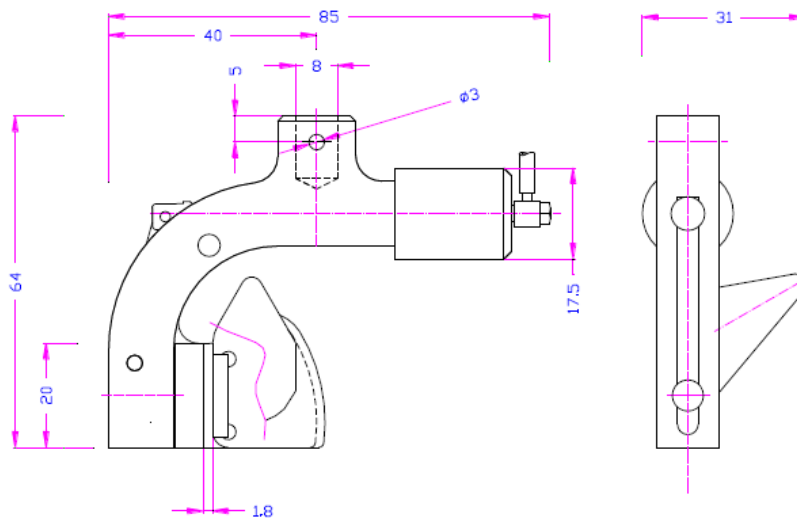
Pyramid jaws
Pyramids of 1.2 x 45°



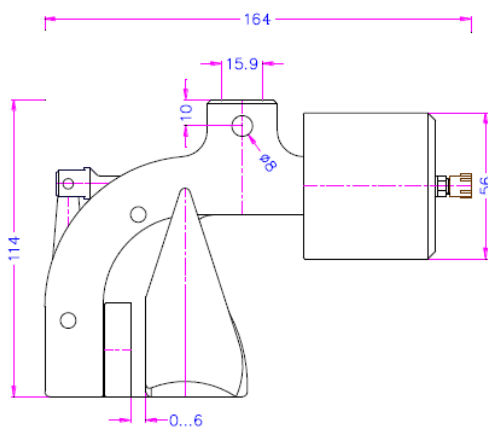
Rubber coated jaws
1mm rubber coat (NBR)



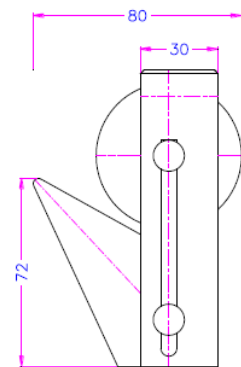
Diamond coated jaws
Clamping area coated with
synthetic diamond



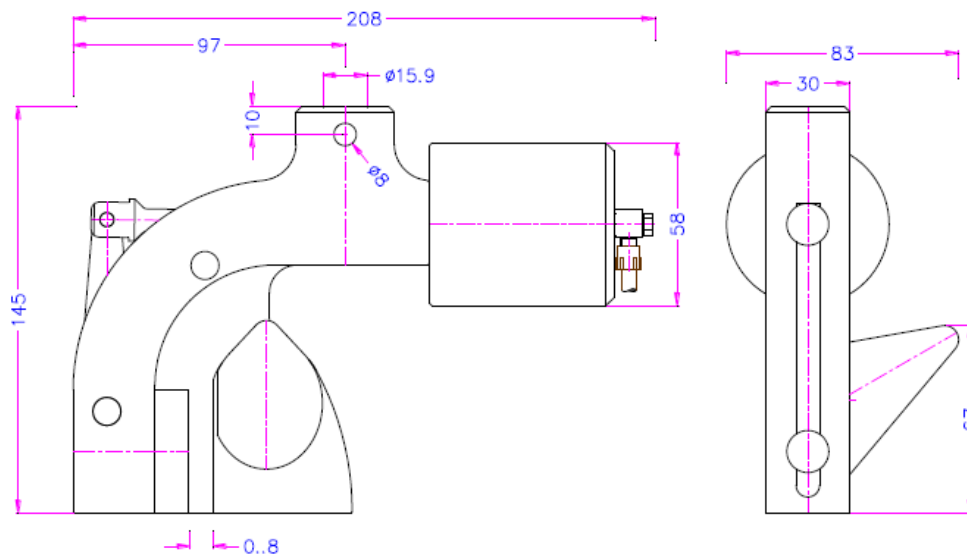
MBC-N/0,2

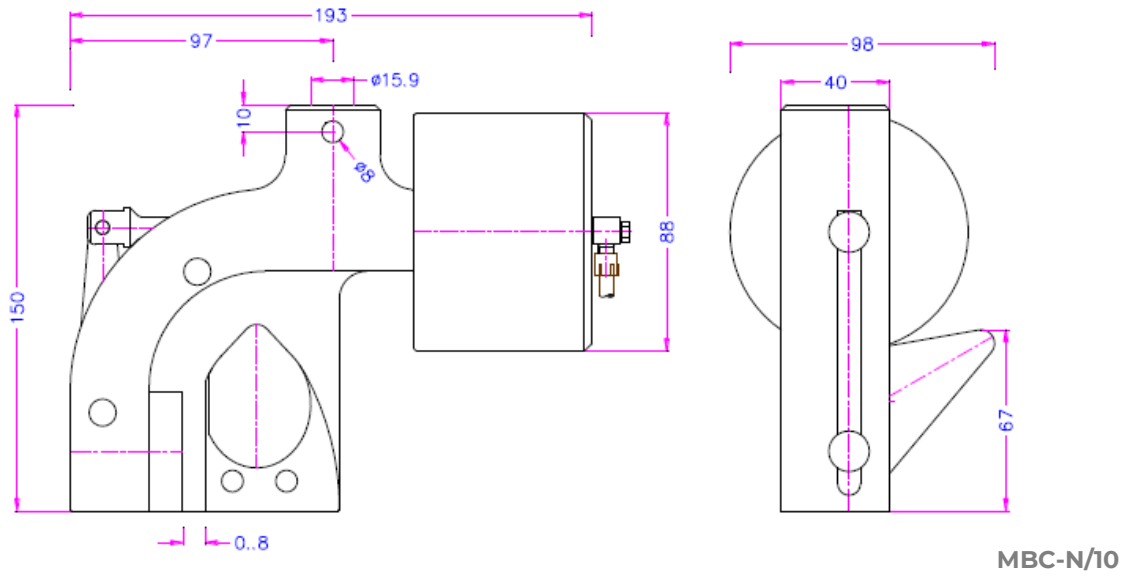


MBC-N/2



MBC-N/2+SSB





MBC-N/10



MBC-N/0,2+Adapter PK23

Pneumatic Bollard Grips Model MB-N/2.5+Ko (1 piston)
Pneumatic Bollard Grips Model MB-N/2.5+2Ko (2 pistons)

Both 2,6 kN capacity

Disc / Bollard grips, easy to use and applicable to perform **tensile tests** on samples of difficult-to-tie materials such as **fine wires, thin ropes and narrow bands**.



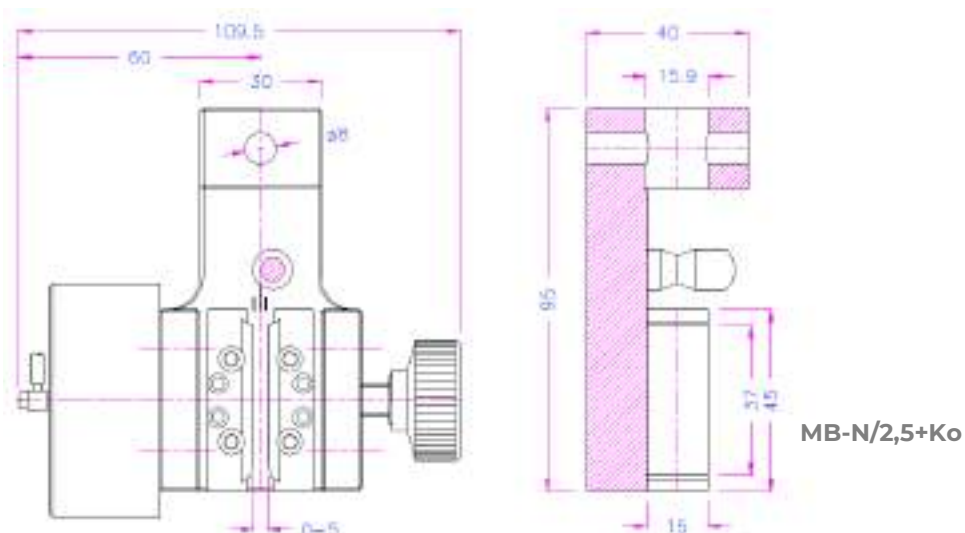
GENERAL INFORMATION

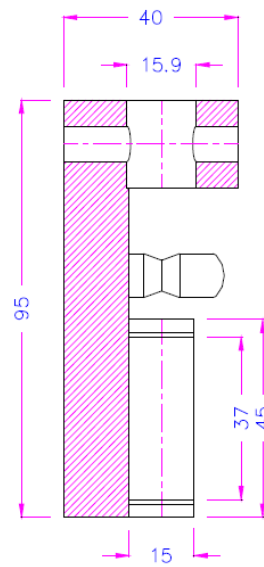
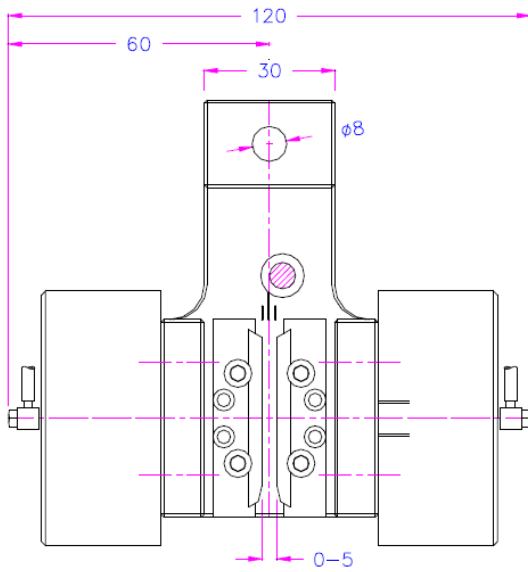
Bollard grips are suitable for tensile testing of a wide range of samples, such as **fine wires, thin ropes and narrow bands**. When testing fine wires the best option is to use synthetic diamond coated jaws.

The grips are designed so that the specimen can be wrapped around the bollard and clamped at one end by means of a manual grip with smooth or synthetic diamond coated faces, this helps to reduce specimen breakage that occurs on the own jaw in other types of grips and also distributes the load during the test around the bollard by introducing friction to the sample. Depending on the coefficient of friction, the samples to be tested should be made one or more turns around the guide roller.

MODEL	MB-N/2,5+Ko (1 Piston) MB-N/2,5+Ko (2 Pistons)
Suitable for:	Fine wires, thin ropes and narrow bands
Maximum load:	2,5 kN
Jaws opening:	0-5 mm
Coupling:	15,9 o 20 mm de Ø.
Pneumatic connection:	Internal thread M5
Temperature range*:	0 to +70 °C
Grip Weight: (including jaws)	0,74 Kg
Body grips:	Aluminium, anodized
Order information: (scope of supply)	1 pair without jaws Insert Jaw Carrier included (jaws must be ordered separately)

* Other temperature ranges, please request





MB-N/2,5+2Ko (with 2 lateral pneumatic pistons)

Model	Jaw surface	Clamp surface Height x Width	Opening jaws	Weight per pair
MD-N/2,5-GT	Carrier for insert jaws			84 g
MD-N/2,5-EB	Blank Insert Jaws	37x15 mm	0-5 mm	52 g
MD-N/2,5-EBD	Diamond Coated Insert Jaws	37x15 mm	0-5 mm	56 g

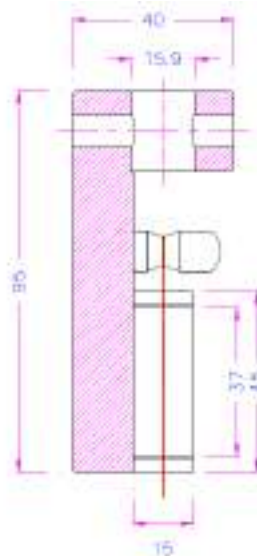
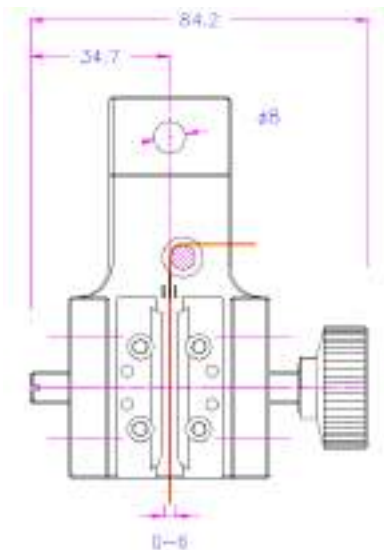


Blank jaws
Smooth steel
without cover

Diamond jaws
Coated clamping area
with synthetic diamond

Carrier for insert jaws

**Jaw Carrier with Blank and
Diamond Insert Jaws**
Side loading way



**MB-N/2,5 with the shape of
load test sample**

Pneumatic Bollard Grips Model MBZ-N/5+Ko **2.6 kN clamping force**

Disc / Bollard Grips, easy to use and applicable to carry out **tensile tests** on samples of materials difficult to clamp (they are applicable for **fine wires, thin ropes and narrow bands ...**)

GENERAL INFORMATION

Bollard grips are suitable for tensile strength testing of a wide range of samples, such as small tapes, ropes, threads, etc.

Winch (bollard) rollers provide slow, notch-free strain relief to prevent specimen breakage in clamping area



MODEL	MBZ-N/5+Ko
Suitable for:	Thin ropes, narrow ribbons, threads ...
Fuerza de amarre del cilindro de 70 mm Ø. :	2,6 kN at 7 Bar
Specimen sizes:	Ropes between 0-3 mm Ø Tapes with a maximum width of 20 mm
Temperature range*:	0 to +70 °C
Body grip:	Aluminium
Bollard:	Steel
Coupling:	15,9 mm Ø.
Pneumatic connection:	1/8 "internal thread
Grip Weight: (including jaws)	2.4 Kg (with counterweight) 1.6 Kg (without counterweight)
Order information: (scope of supply)	1 Pair of Grips without jaws (to be ordered separately)

* Other temperature ranges, please request

Jaws available for MBZ-N / 5 grips

Model	Jaw surface	Clamping surface Height x Width	Weight per pair
MBZ/5-BB	Blank jaws	30 x 20 mm	60 g
MBZ/5-BP	Serrated Jaws (pyramids)	30 x 20 mm	60 g
MBZ/5-BD	Diamond jaws	30 x 20 mm	60 g



Blank jaws
Smooth steel
without cover



Serrated jaws
Pyramids clamping area



Diamond jaws
Coated clamping area
with synthetic diamond

Pneumatic Bollard Grips MB-N series **1-20 kN capacity**

Disc / Bollard Grips, easy to use and applicable to perform **tensile tests** on samples of difficult to clamp materials (they are applicable for **filaments, ropes, threads, fine wires, tapes and narrow ropes**, etc.)



GENERAL INFORMATION

Bollard Grips are suitable for perform tensile strength tests on a wide range of samples, such as fine yarns, filaments, threads, cords, cables and fine wires, tapes, ropes....

Depending on the coefficient of friction, the specimen will be twisted one or more times around the capstan (bollard), before being fixed with the clamping jaws.

Winch (bollard) rollers provide slow, notch-free strain relief to prevent specimen breakage in clamping area.

Standard couplings: 15.9 or 20 mm Ø.
Other coupling sizes on request.

MODELS	MB-N/1+Ko	MB-N/5+Ko	MB-N/20+Ko
Suitable for:	Threads, Filaments, Fibers ...	Threads, cords, strands, etc.	Wires, strands, cords, etc.
Maximum load:	1 kN	5 kN	20 kN
Recommended specimen Ø:	0-2 mm Ø	0-5 mm Ø	0-9 mm Ø
Bollard diameter:	20 mm Ø	40 mm Ø	93 mm Ø
Minimal specimen length:	240 mm	400 mm	890 mm
Clamping surface:	20 x 10 mm	30 x 12 mm	30 x 15 mm
Temperature range*:	0 a +70 °C	0... a +180°C	
Pneumatic Connection:	Internal thread M5	Internal thread 1/8"	Internal thread 1/8"
Body grip:	Aluminum, anodized	Aluminum, anodized	Steel, nickel plated
Jaw Weight: (including jaws)	0.63 kg (clamp + counterweight without jaws); 0.43 kg (vise without counterweight without jaws)	1.24 Kg each grip without jaw	3.04 Kg each grip without jaw
Scope of delivery:	1 pair without jaws. The grips are supplied as a pair incl. 1 grip without and 1 grip with counter weight (upper grip)	1 pair of grips wiyhout jaws	1 pair of grips wiyhout jaws

* Other temperature ranges on request

** SSB Stainless Steel Bollard

Jaws for MB-M grips: Scope of supply 1 Set = 2 Jaws

Model	Jaw surface	Clamping surface Alto x Ancho	Weight per pair
MDM/1-Ko-B	Blank jaws	20x10 mm	48 g
MDM/1- Ko-BP	Pyramid (serrated) jaws	20x10 mm	52 g
MDM/1- Ko-BG	Rubber coated jaws	20x10 mm	56 g
MDM/1- Ko-BD	Diamond coated jaws	20x10 mm	52 g
MDM/5- Ko-B	Blank jaws	30x12 mm	71 g
MDM/5- Ko-BP	Pyramid (serrated) jaws	30x12 mm	71 g
MDM/5- Ko-BG	Rubber coated jaws	30x12 mm	75 g
MDM/5- Ko-BD	Diamond coated jaws	30x12 mm	73 g
MDM/20- Ko-B	Blank jaws	30x15 mm	65 g
MDM/20- Ko-BP	Pyramid (serrated) jaws	30x15 mm	63 g
MDM/20- Ko-BG	Rubber coated jaws	30x15 mm	67 g
MDM/20- Ko-BD	Diamond coated jaws	30x15 mm	67 g



Blank jaws
Smooth steel
without cover



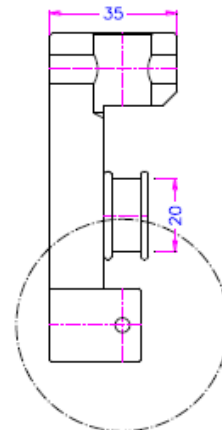
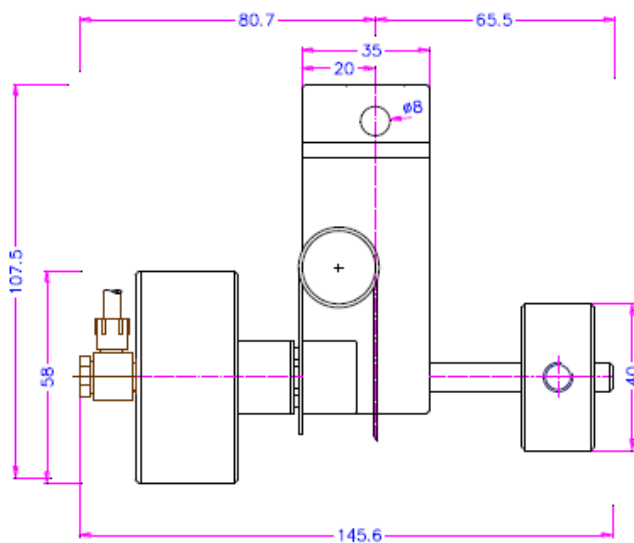
Pyramid jaws
Pyramids of 1.2 x 45°



Rubber coated jaws
1mm rubber coat (NBR)



Diamond coated jaws
Clamping area coated with
synthetic diamond



MB-N/1+Ko

Examples of custom made solutions:



MB-N/1-D100+Ko+UN205-4-M5
Pneumatic version with 100 mm Ø
winch (bollard)
With manual microswitch
UN205-4-M5 tire



MB-N/1+150+BD
For thin and hard fibers such as 150 mm
Ø fiberglass bollard



MB-N/5-Ko-2A
with 2 couplings
and rubber jaws (BG)



MB-N/5-VI+BD+D40
Jaw angle and distance from bollard to center line adjustable



Pneumatic Bollard Grips model MBS-N/20 (20 kN) **Pneumatic Bollard Grips model MBS-N/50 (50 kN)**

Disc / Bollard Grips, easy to use and applicable to perform **tensile tests** on samples of materials difficult to clamp (they are applicable for **ropes and tapes**)

GENERAL INFORMATION

Bollard grips are suitable for tensile testing of a wide range of samples, such as ropes and tapes.

Depending on the coefficient of friction, the specimen will be twisted one or more times around the capstan (bollard), before being fixed with the clamping jaws.

Winch (bollard) rollers provide slow, notch-free strain relief to prevent specimen breakage in clamping area.

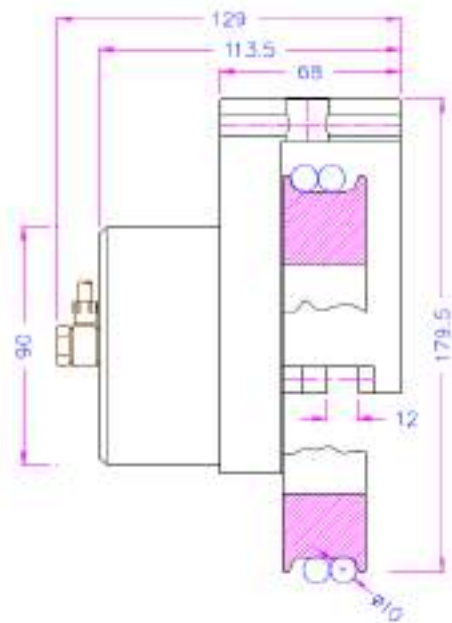
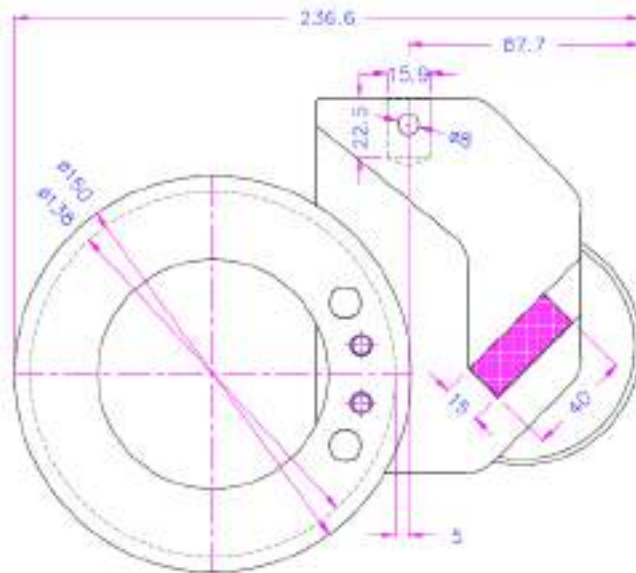


MODELO	MBS-N/20	MBS-N/50
Maximum load:	20 kN (max. 10 Bar)	50 kN (max. 10 Bar)
Coupling:	15,9 mm Ø	31,8 mm Ø
Jaw opening:	0-12 mm	0-20 mm
Min. Sample Length:	1250 mm	1650 mm
Jaw Clamping Surface:	15 x 40 mm Pyramids (serrated)	30 x 12 mm Pyramids (serrated)
Pneumatic connection:	1/8 "internal thread	1/8 "internal thread
Body grip:	Aluminium, anodized	Aluminium, anodized
Bollard (capstan):	Steel	Steel
Jaws:	Steel, hardened, nickel plated	Steel, hardened, nickel plated
Temperature range*:	0 to +70 °C	0... tp +70°C
Grip Weight: (Including Jaws)	4,7 Kg	11 Kg
Order information: (scope of supply)	1 pair of grips including jaws	1 pair of grips including jaws

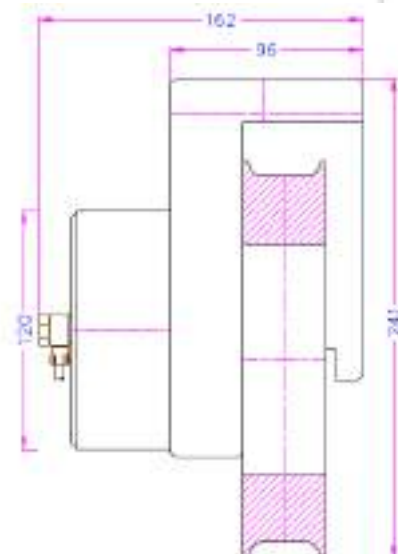
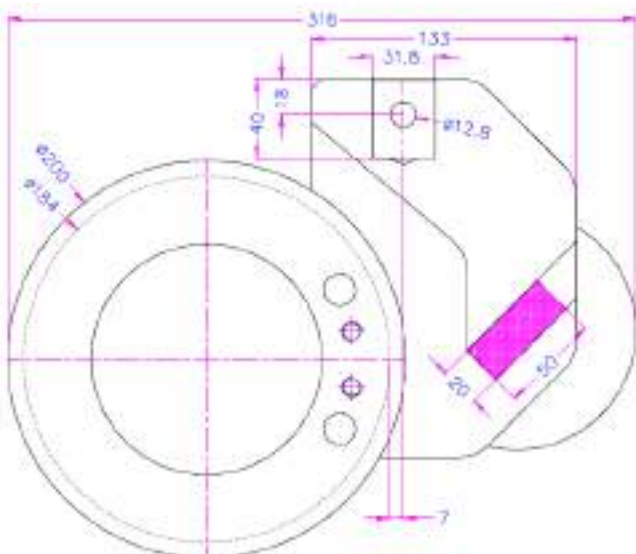
*Other temperature ranges, please request



MBS-N/20 (20 kN)



MBS-N/50 (50 kN)



PNEUMATIC ACCESSORIES:



UN205-1 Foot pedals

None-locking: The grip jaws open by pressing the foot pedal and close after removing the foot from the pedal.

Scope of delivery: 1 pair of foot switches including tubes and fittings



UN205-2 Foot pedal

With locking function: The grip jaws open by pressing the foot pedal and remain opened after removing the foot from the pedal. The jaws close by pressing the pedal one more time.

Scope of delivery: 1 pair of foot switches including tubes and fittings



UN205-.+PR16bar Pressure regulator

Optional for UN205-1 o UN-205-2

To adjust air pressure: 1-16 bar



UN205-3 Hand switches

With locking function: The jaws of the grip close by pulling the handle and remain closed. The jaws open by pushing the handle back.

Scope of delivery: 1 unit of hand switches including tubes and fittings



UN205-4-M5 Handheld Micro-Switches

Pneumatic manual microswitches, tubes and fittings, M5 pneumatic connection

With lockout feature: Manual switches mount directly to handles (1/8" couplings only), 3/2 directional valve. Only for single action rods with spring inside.

Scope of supply: 2 manual switches including tubes and accessories



UN216 Silent compressor for laboratories, oil-lubricated, with pressure reducer

Max pressure 16 bar; 230 V/50 HZ; noise level: 38 dB(A)

Motor: 0.13 kW; displacement: 17 l/min; tank size 3.5 l Dimensions: 340x290x340 mm (L x W x H); weight 18 kg

Different voltages on demand

Recommended Testing Machines:



MTE-5 (to 5 kN)



MTE-10 (to 10 kN)



MTE-25 (to 25 kN)



MTE-50 (to 50 kN)



MTE-100 (to 100 kN)