MX Disc Brake Caliper Range

The Twiflex MX13, MX25, MX30 and MX40 series of disc brake calipers is suitable for use with discs of 12.7mm, 25.4mm, 30mm and 40mm thick respectively. The SMX caliper is only suitable for use with discs 12.7mm thick. Minimum disc diameter is 300mm.

The MX/SMX calipers may be used with any of the Twiflex series of thrusters and feature a patented link mechanism to ensure uniform pad wear.

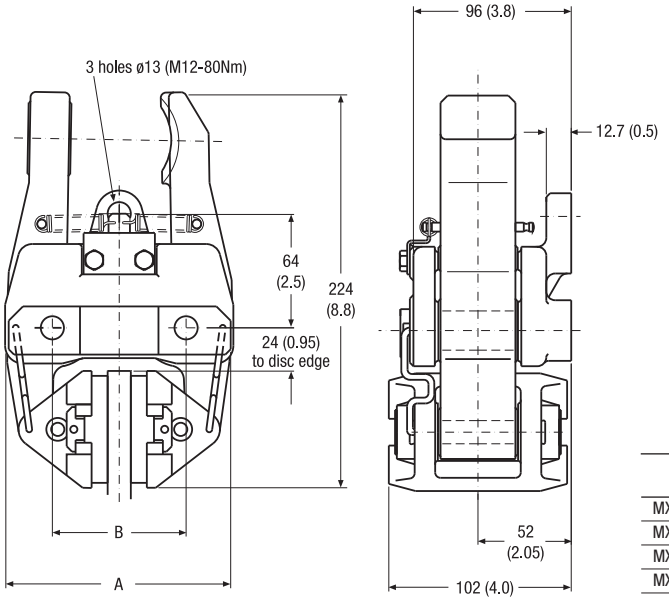
Normally one or two calipers are used per disc, but the number may be increased depending on disc size. The brakes may be positioned at any angle around the periphery of the disc, but should ideally be mounted horizontally (i.e. at the 3 o'clock or 9 o'clock position). If the caliper mounting angle is greater than 10° from the horizontal, or on vertical shaft applications, it should be fitted with an inclined mounting kit or equalising link. A range of brake discs is available from Twiflex (see Disc and Hub Assemblies).

For pneumatic operation use dry, filtered and non-lubricated compressed air. Pneumatic brakes require a control valve, operated either manually or by pneumatic or electrical signal.

The ratings shown on the graphs are based on fully bedded in and conditioned brake pads with a nominal friction coefficient μ = 0.4. Twiflex disc brakes must be used with Twiflex asbestos free brake pads.

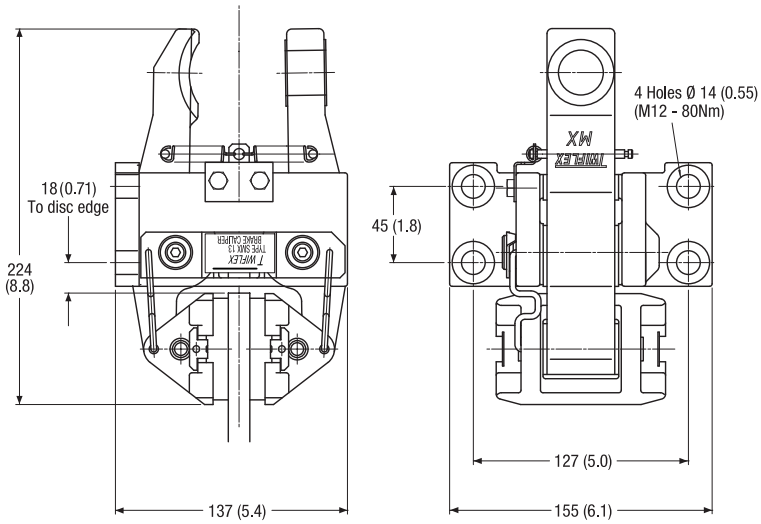
Effective disc radius = actual radius (m) – 0.033m.

MX Disc Brake Caliper



	Disc Thickness	A	B
MX13	13	130	75
MX25	25	134	84
MX30	30	142	75
MX40	40	150	84

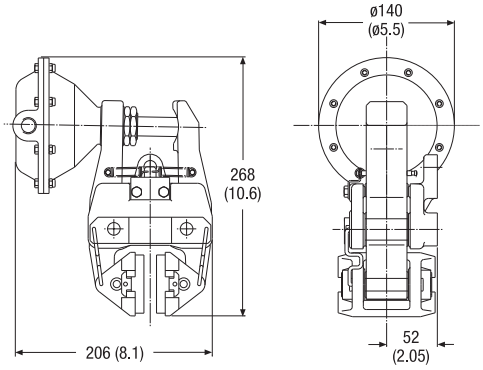
SMX Disc Brake Caliper

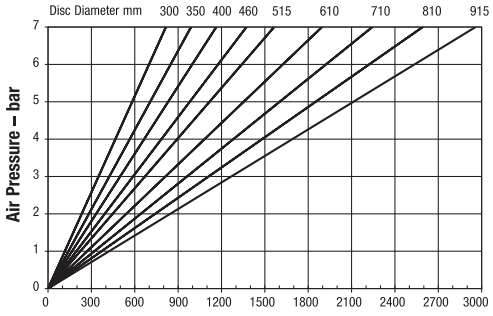


Retraction pressures where shown are calculated and may vary depending on spring tolerance.

MX Series

MXA Pneumatically Applied – Spring Released

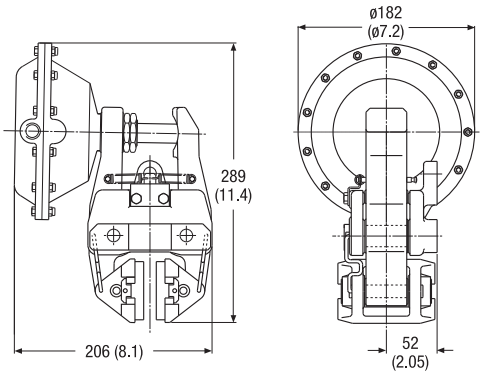


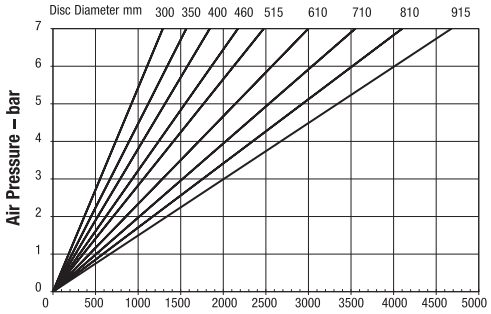


Maximum Pressure 7 bar
Maximum Braking Force = 6.9kN @ 7 bar
Weight of caliper and thruster - 8.32kg

Weight of thruster only - 1.32kg
Volume displacement of thruster at full stroke = 300ml

MXB Pneumatically Applied – Spring Released

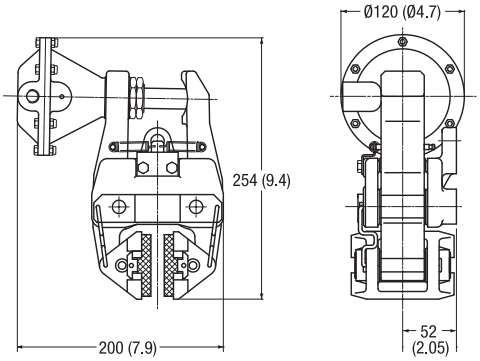


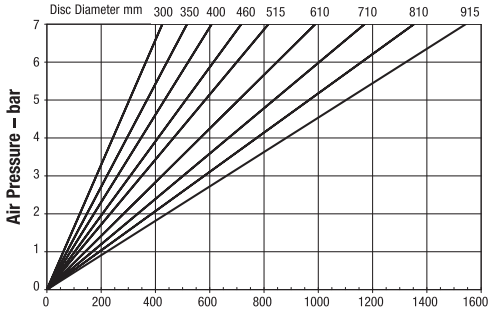


Maximum Pressure 7 bar
Maximum Braking Force = 11kN @ 7 bar
Weight of caliper and thruster - 9.06kg

Weight of thruster only - 2.06kg
Volume displacement of thruster at full stroke = 426ml

MXD Pneumatically Applied – Spring Released

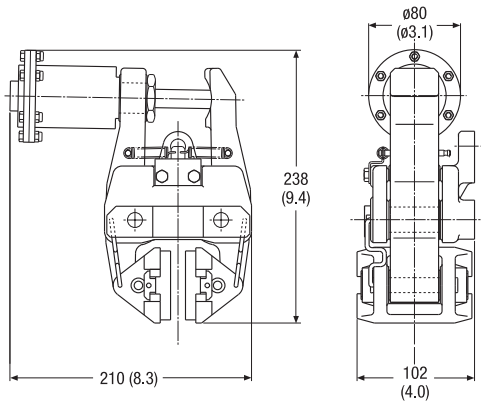


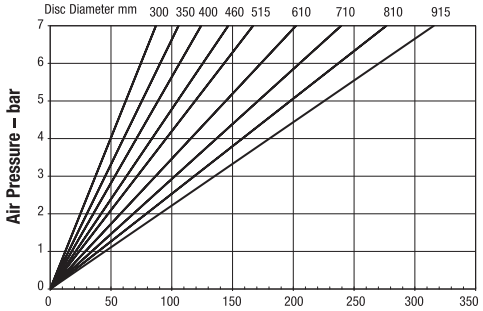


Maximum Pressure 7 bar
Maximum Braking Force = 3.6kN @ 7 bar
Weight of caliper and thruster - 8.15kg

Weight of thruster only - 1.15kg
Volume displacement of thruster at full stroke = 150ml

MXE Pneumatically Applied – Spring Released



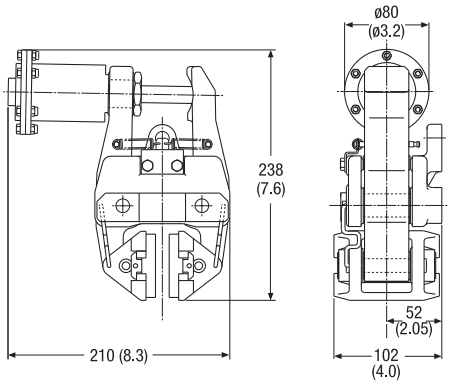


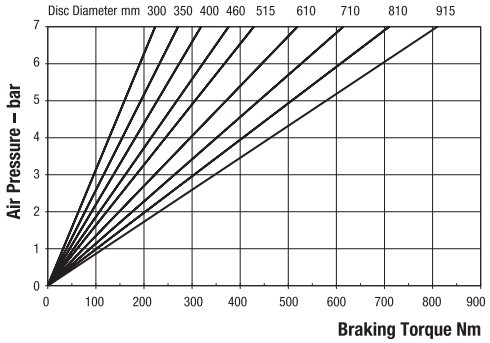
Maximum Pressure 7 bar
Maximum Braking Force = 0.74kN @ 7 bar
Weight of caliper and thruster - 7.34kg

Weight of thruster only - 0.34kg
Volume displacement of thruster at full stroke = 25ml

Retraction pressures where shown are calculated and may vary depending on spring tolerance.

MXG Pneumatically Applied – Spring Released

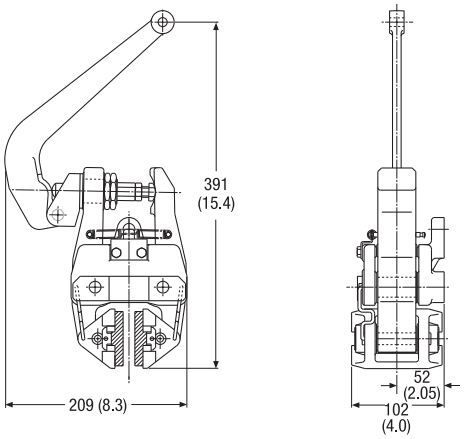


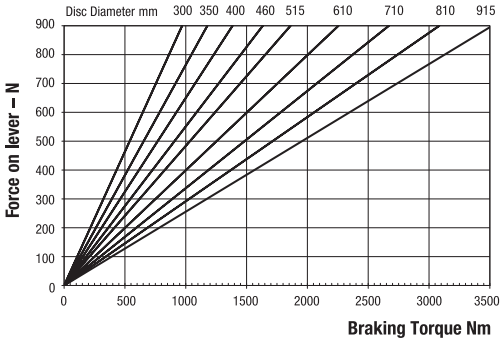


Maximum Pressure 7 bar
Maximum Braking Force = 1.9kN @ 7 bar
Weight of caliper and thruster - 7.3kg

Weight of thruster only - 0.3kg
Volume displacement of thruster at full stroke = 64ml

MXH Mechanically Applied – Lever Operated

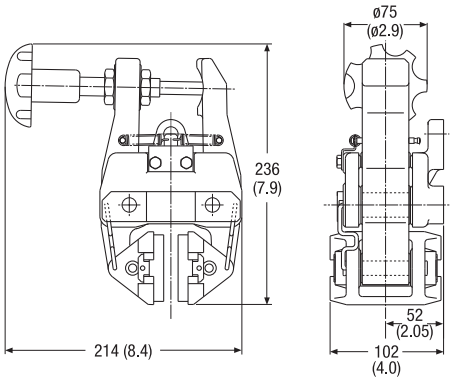


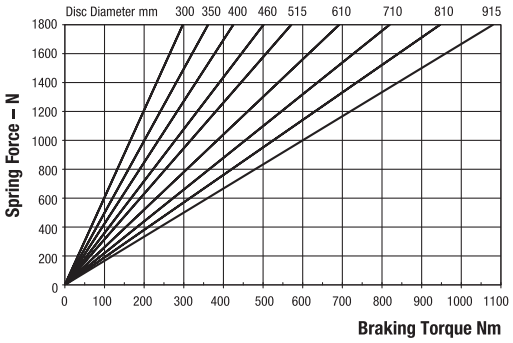


Weight of caliper and lever assembly - 8.4kg
Weight of lever assembly only - 1.4kg

Maximum Braking Force = 8.3kN @ 0.9kN force on lever

MXW Mechanically Applied – Hand Operated





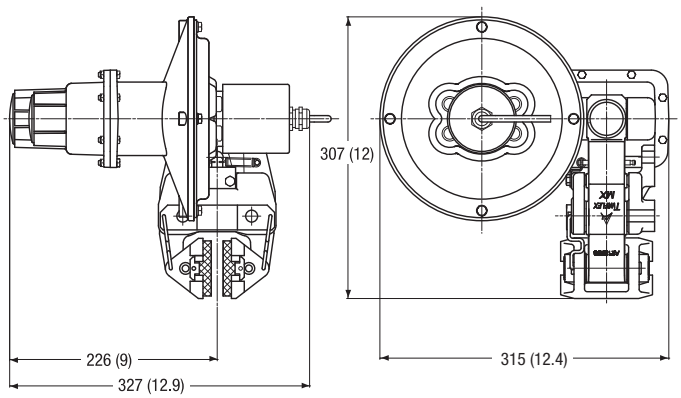
Weight of caliper and hand wheel assembly - 8.3kg
Weight of hand wheel assembly only - 1.3kg

Maximum Braking Force = 2.68kN

Retraction pressures where shown are calculated and may vary depending on spring tolerance.

MX Series

MXEA Spring Applied – Electrically Released, Self Adjusting



Maximum Braking Force = 6kN
Weight of caliper and actuator - 15.7kg

Weight actuator only - 8.7kg
Weight of controller - 5.5kg

The EA actuator is a spring applied, electrically released unit designed for use with the Twiflex MX range of disc brake calipers. A 175W pancake motor drives a ball screw mechanism, retracting the brake.

A feature of the unit is a patented self-adjusting mechanism which maintains a constant air gap (and consequently braking force) between pad and disc as the pads wear.

The assembly is contained in a rugged, cast aluminium housing, designed for service in the harshest environments, which mounts directly to one arm of the MX caliper.

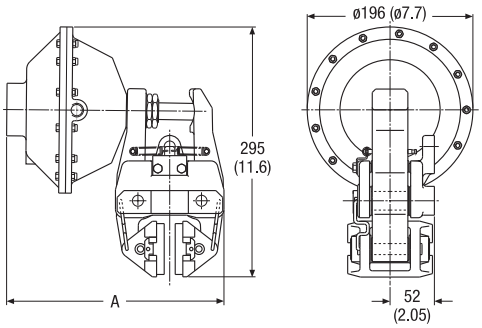
The MXEA is supplied complete with a solid state controller, suitable for all AC supply voltages, which converts the supply to the required DC output for the pancake motor. A 24VDC unit is also available. The brake is released when power to the controller is switched on, and applied when power is disconnected. Controlled application of the brake occurs, electrically damped by using the motor back E.M.F. and a damping resistor.

The controller is housed in a strong, steel, wall mounted enclosure (215mm x 215mm x 150mm deep), protected to IP44 as standard (higher rating on request).

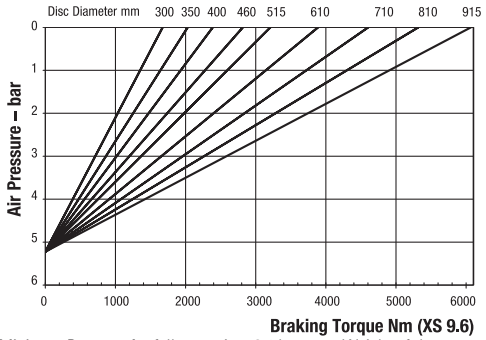
Braking force adjustable to 50% of maximum.

Retraction pressures where shown are calculated and may vary depending on spring tolerance.

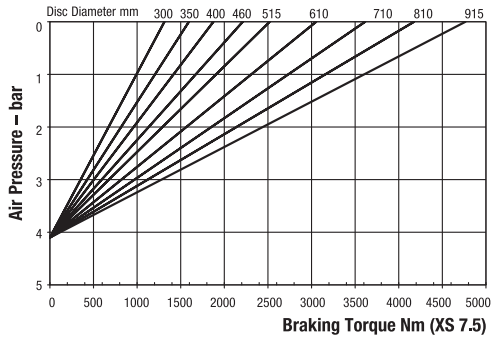
MXS Spring Applied – Pneumatically Released, Self Adjusting



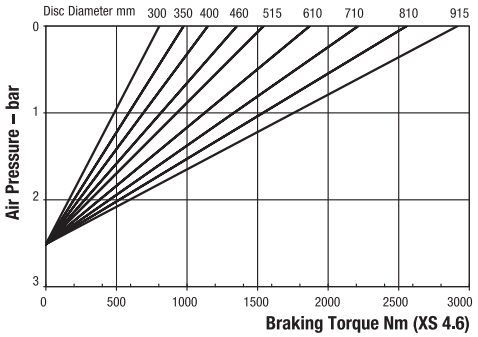
	A
XS 9.6	281
XS 7.5	270
XS 4.6	270



Minimum Pressure for full retraction: 6.4 bar
Maximum Braking Force XS 9.6: 14.3kN
Weight of caliper and thruster - 12.1kg
Weight of thruster only - 5.1kg
Volume displacement of thruster at full retraction = 1.19 l

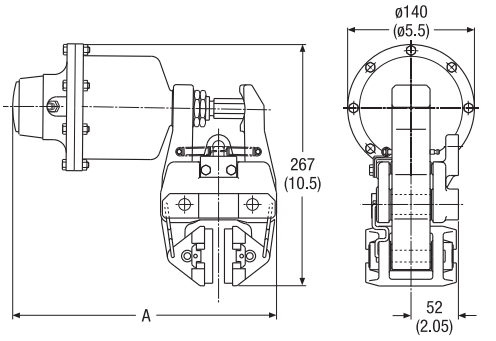


Minimum Pressure for full retraction: 5.5 bar
Maximum Braking Force XS 7.5: 11.2kN
Weight of caliper and thruster - 11.9kg
Weight of thruster only - 4.9kg
Volume displacement of thruster at full retraction = 1.19 l

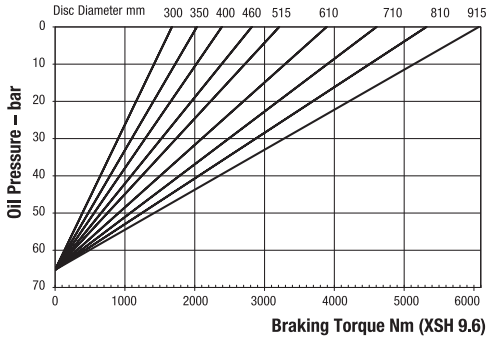


Minimum Pressure for full retraction: 3.1 bar
Maximum Braking Force XS 4.6: 6.8kN
Weight of caliper and thruster - 11.5kg
Weight of thruster only - 4.5kg
Volume displacement of thruster at full retraction = 1.19 l

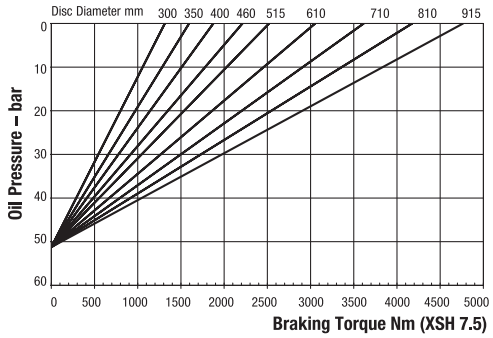
MXSH Spring Applied – Hydraulically Released, Self Adjusting



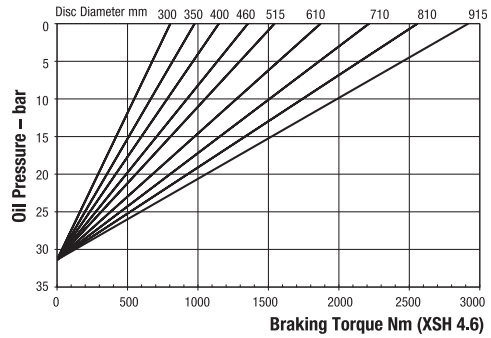
	A
XSH 9.6	315
XSH 7.5	290
XSH 4.6	290



Minimum Pressure for full retraction: 82 bar
Maximum Braking Force XSH 9.6: 14.3kN
Weight of caliper and thruster - 11.6kg
Weight of thruster only - 4.6kg
Volume displacement of thruster at 6mm retraction = 9.1ml



Minimum Pressure for full retraction: 65 bar
Maximum Braking Force XSH 7.5: 11.2kN
Weight of caliper and thruster - 11.4kg
Weight of thruster only - 4.4kg
Volume displacement of thruster at 6mm retraction = 9.1ml

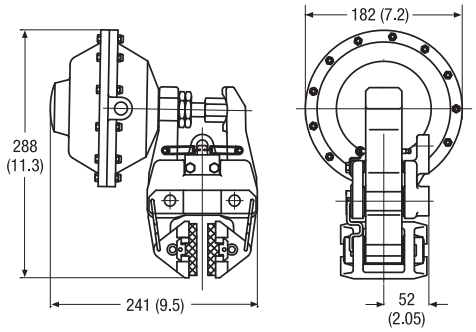


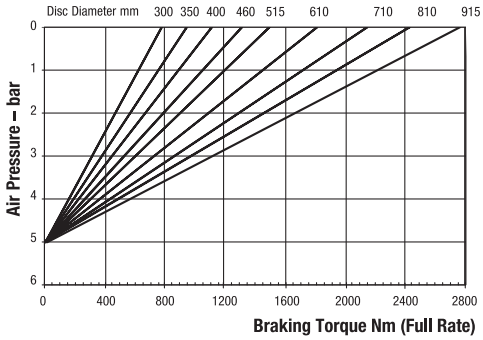
Minimum Pressure for full retraction: 40 bar
Maximum Braking Force XSH 4.6: 6.8kN
Weight of caliper and thruster - 11kg
Weight of thruster only - 4kg
Volume displacement of thruster at 6mm retraction = 9.1ml

Retraction pressures where shown are calculated and may vary depending on spring tolerance.

MX Series

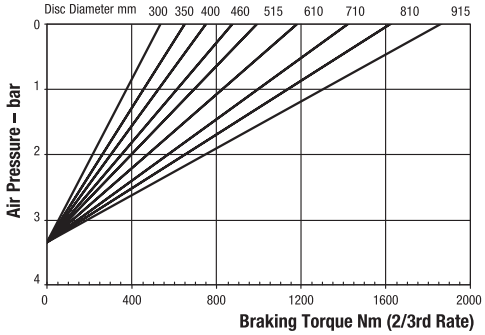
MXK Spring Applied – Pneumatically Released, Self Adjusting





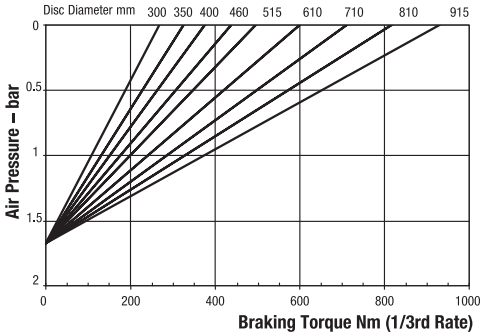
Minimum Pressure for full retraction: 5 bar
Maximum Braking Force full rate: 6.4kN
Weight of caliper and thruster - 10.5kg

Weight of thruster only - 3.5kg
Volume displacement of thruster at full retraction = 950ml



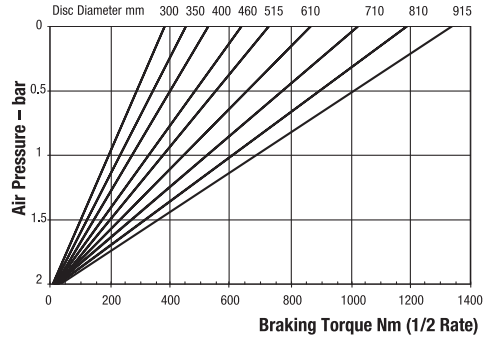
Minimum Pressure for full retraction: 3.3 bar
Maximum Braking Force 2/3 rate: 4.3kN
Weight of caliper and thruster - 10.5kg

Weight of thruster only - 3.5kg
Volume displacement of thruster at full retraction = 950ml



Minimum Pressure for full retraction: 1.7 bar
Maximum Braking Force 1/3 rate: 2.2kN
Weight of caliper and thruster - 10.5kg

Weight of thruster only - 3.5kg
Volume displacement of thruster at full retraction = 950ml

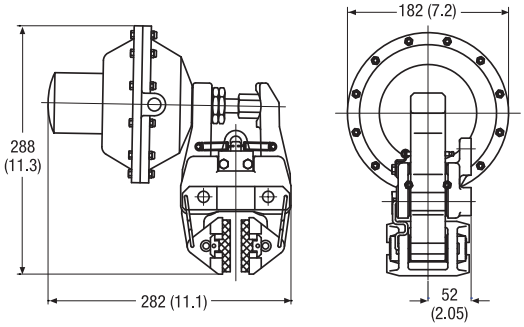


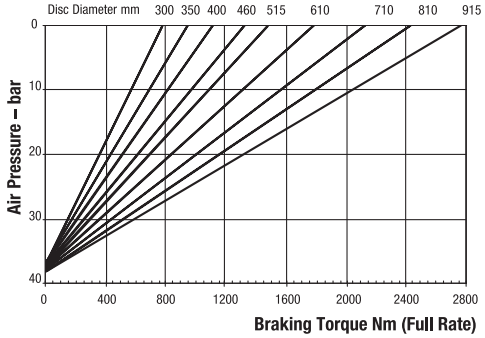
Minimum Pressure for full retraction: 2.5 bar
Maximum Braking Force 1/2 rate: 3.2kN
Weight of caliper and thruster - 10.5kg

Weight of thruster only - 3.5kg
Volume displacement of thruster at full retraction = 950ml

Retraction pressures where shown are calculated and may vary depending on spring tolerance.

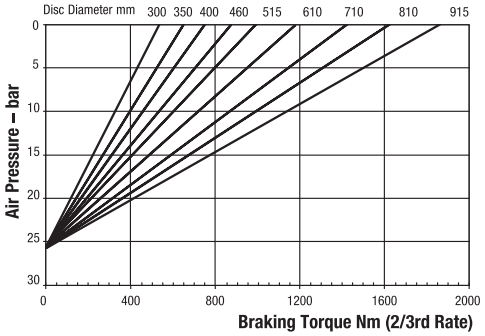
MXL Spring Applied – Hydraulically Released, Self Adjusting





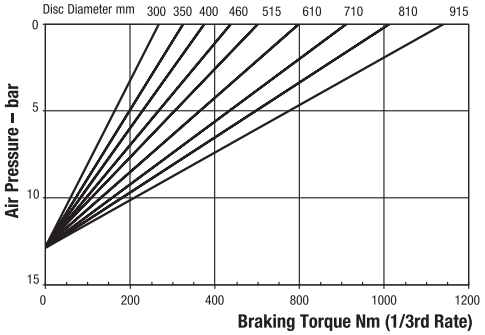
Minimum Pressure for full retraction: 50 bar
Maximum Braking Force full rate: 6.4kN
Weight of caliper and thruster - 11kg

Weight of thruster only - 4.0kg
Volume displacement of thruster at 4mm retraction = 5ml



Minimum Pressure for full retraction: 33 bar
Maximum Braking Force 2/3 rate: 4.3kN
Weight of caliper and thruster - 11kg

Weight of thruster only - 4.0kg
Volume displacement of thruster at 4mm retraction = 5ml



Minimum Pressure for full retraction: 17 bar
Maximum Braking Force 1/3rd rate: 2.2kN
Weight of caliper and thruster - 11kg

Weight of thruster only - 4.0kg
Volume displacement of thruster at 4mm retraction = 5ml

Retraction pressures where shown are calculated and may vary depending on spring tolerance.