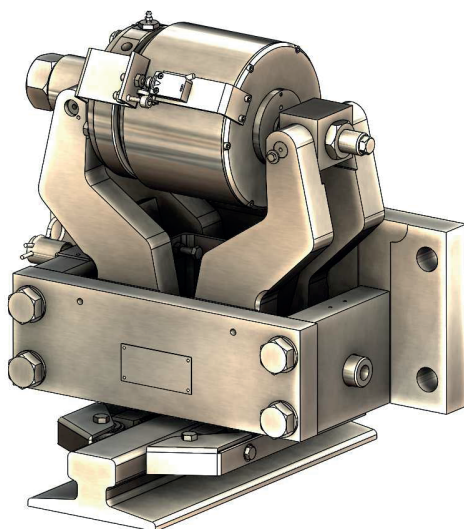




RAIL CLAMPS & STORM BRAKES



Creative solutions for the industry

www.atv.fr

Safe locking for rail-mounted systems exposed to the wind is now a priority for operators. In this catalogue, ATV features and presents safety mechanisms designed to secure all types of port and industrial installations.

There is a wide range of possible applications:

- Port cranes, shipyard cranes, container gantries,
- Gangways for foot passengers,
- Outdoor handling gantries, maintenance travelling cranes stored outdoors,
- Moving ship locking, mobile roof safety for stadium,
- Dynamic emergency braking for funicular carriages, etc. and much more.

Our rail clamps and rail supports are generally safety mechanisms ('failsafe') and therefore run with no energy: the clamping or support effect is generated by spring washer stacking.

This guarantees effective braking in the event of an emergency stop or power cut.

The brake is opened by activating a hydraulic power unit. The brakes may be timed to be applied only after a complete halt of the system.

Our direct action electrics rail clamps are made for static braking (parking brakes).

The braking force is generated by a motor coupled to a screw nut.

ATV rail clamps are made up of two levers that enable a rail's two side blanks to be pressed via smooth metal pads for dynamic applications and vice jaw pads for purely static applications.

The ATV rail clamps' floating design provides maximum compliance to adapt to all rail straight line faults.

The **ATV storm brakes** provide a safety solution if the rail sides are not accessible (e.g.: rail sunk into the concrete). The rail clamp takes charge of part of the system's weight and provides static support via a vice jaw pad pressed onto the upper side of the rail.

	Rail clamps										Storm brakes	
Release	Hydraulic						Electric			Manual	Hydraulic	
Type	SH50K	SH100K	SH200K	SH300K	SH400K	SH500K	EM100K	EM200K	EM400K	MA100K	AP110K	AP230K
Braking force [kN] (slick pads)	12,5	25	50	75	100	200	-	-	-	-	-	-
Braking force [kN] (diamond pads)	50	100	200	300	400	500	100	200	400	100	110	230
Release pressure [bar]	110	110	105	105	115	110	-	-	-	-	210	200
Supply voltage [Vac]	-	-	-	-	-	-	400	400	400	-	-	-
Type of rail	Parallel flanks : A55 / A65 / A75 / A100 / A120 - Unparallel flanks : 60E6 For any other type of rail, contact ATV										-	-
Weight [kg]	210	210	238	238	238	290	198	210	273	170	130	450
Weight [kg] (+ power pack)	244	244	273	273	273	308	-	-	-	-	-	-



Creative solutions for the industry



Creative solutions for the industry

SH50K/SH400K
SH500K

FAIL-SAFE RAIL CLAMPS



With slick pads

*Braking force
from 12,5 to 200 kN*

*For low speed and dynamic
braking*

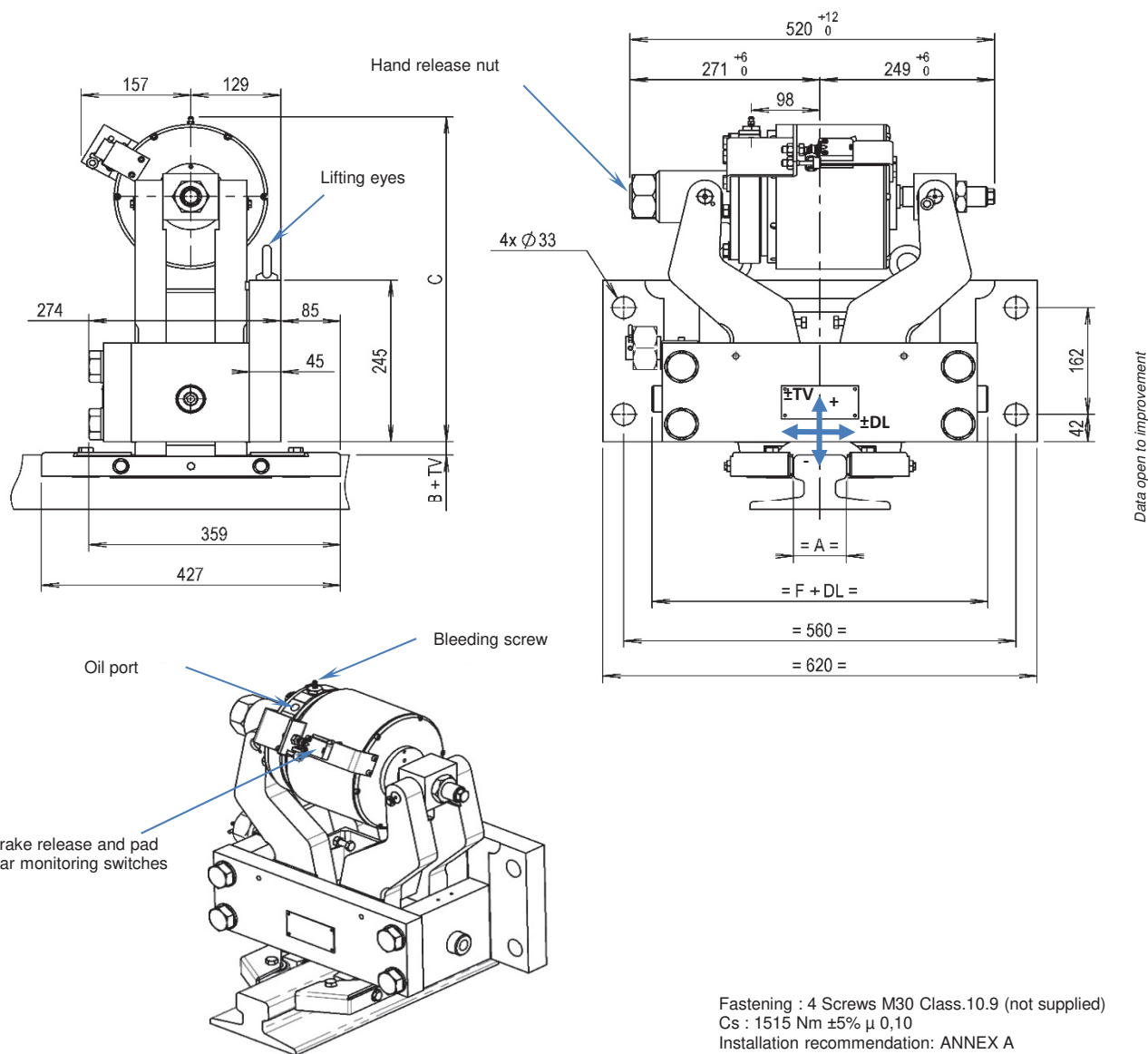
With diamond pads

*Braking force
from 50 to 500 kN*

*For static brake only.
Exceptional emergency
stop with pad replacement*

FAIL-SAFE RAIL CLAMP

Spring applied - Hydraulic release



Fastening : 4 Screws M30 Class.10.9 (not supplied)
Cs : 1515 Nm $\pm 5\%$ μ 0,10
Installation recommendation: ANNEX A

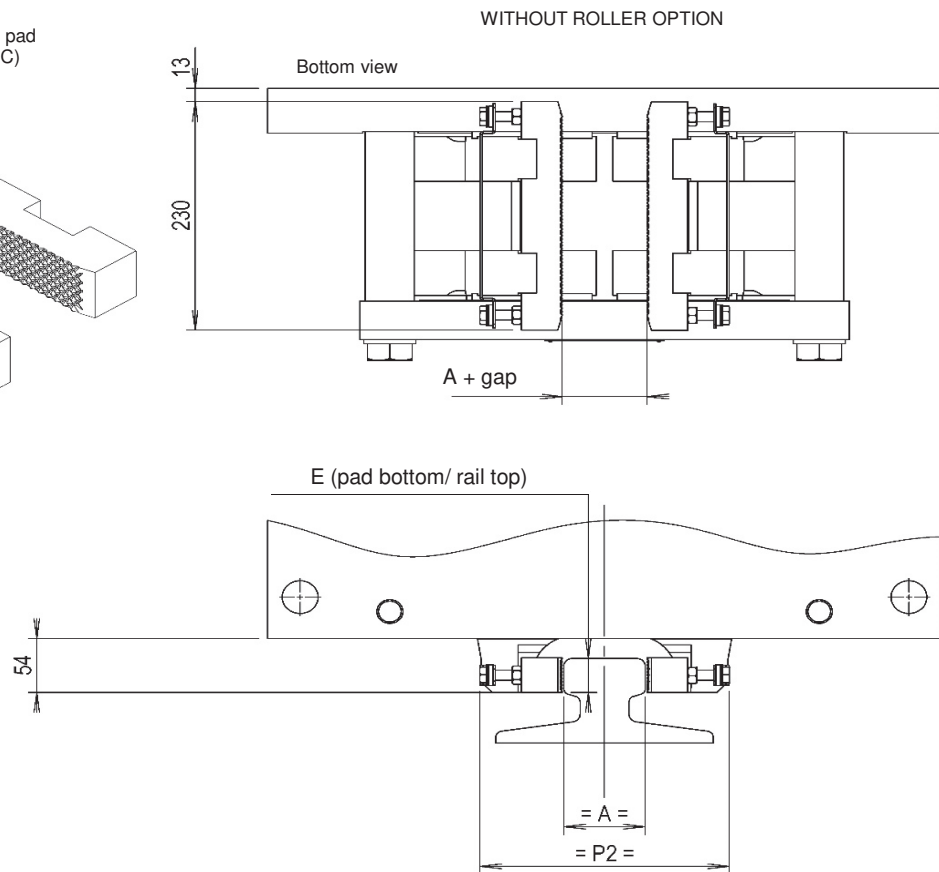
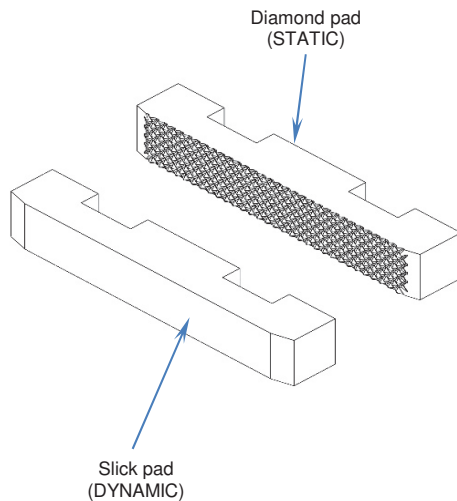
Type of rail		A55	A65	A75	A100	A120	60E6
A	mm	55	65	75	100	120	72
B (nominal value)	mm	25	20	20	15	15	15
F	mm	479,5	479,5	479,5	486	486	479,5
TV (Vertical clearance)	mm	+1/-3	+/-4	+2/-5	+/- 5	+/- 5	+2/-5
DL (Lateral clearance)	mm	+/- 30	+/- 30	+/- 30	+/- 20	+/- 20	+/- 30

Technical features :

		SH50K	SH100K	SH200K	SH300K	SH400K
Braking force (STATIC)	kN	50	100	200	300	400
Braking force (DYNAMIC)	kN	12,5	25	50	75	100
Total gap between pads and disc (nominal value)	mm	3	3	2,5	2	1,6
C (Overall height)	mm	484	484	497	497	497
Weight	kg	210	210	238	238	238
Oil port		1/4" BSP	1/4" BSP	3/8" BSP	3/8" BSP	3/8" BSP
Displaced volume for complete release	cm ³	80	80	220	220	220
Release pressure	bar	110	110	105	105	115
Maximal pressure	bar	130	130	130	130	130

FAIL-SAFE RAIL CLAMP

Other characteristic and options



Data open to improvement

Type of rail		A55	A65	A75	A100	A120	60E6
A	mm	55	65	75	100	120	72
E	mm	29	34	34	41	41	38
P2	mm	238	238	238	273	273	238

Ordering part number :

PINSH 400K - A100 - GL

Type of rail clamp

Braking force (50;100;200;300;400kN)

Type of rail (A55;A65;A75;A100;A120;60E6)

Type of pads (Static(Ø);Dynamic(GL))

Working conditions:

Ambient temperature	°C	-20 / +60
Humidity	%	< 90

Monitoring switches:

240V 1,5A AC ; 250V 0,1A DC
Wire 5 x 0.75mm², length 2m., Øext 7.5mm
IP67 protection

Options :

- Integrated power pack (datasheet PRH 1-12)
- Protective cover for rail-brake and power-pack
- Without guide rollers (for dynamic braking)
- Slick pads (for dynamic braking)
- Seawater execution
- Off-shore certifications

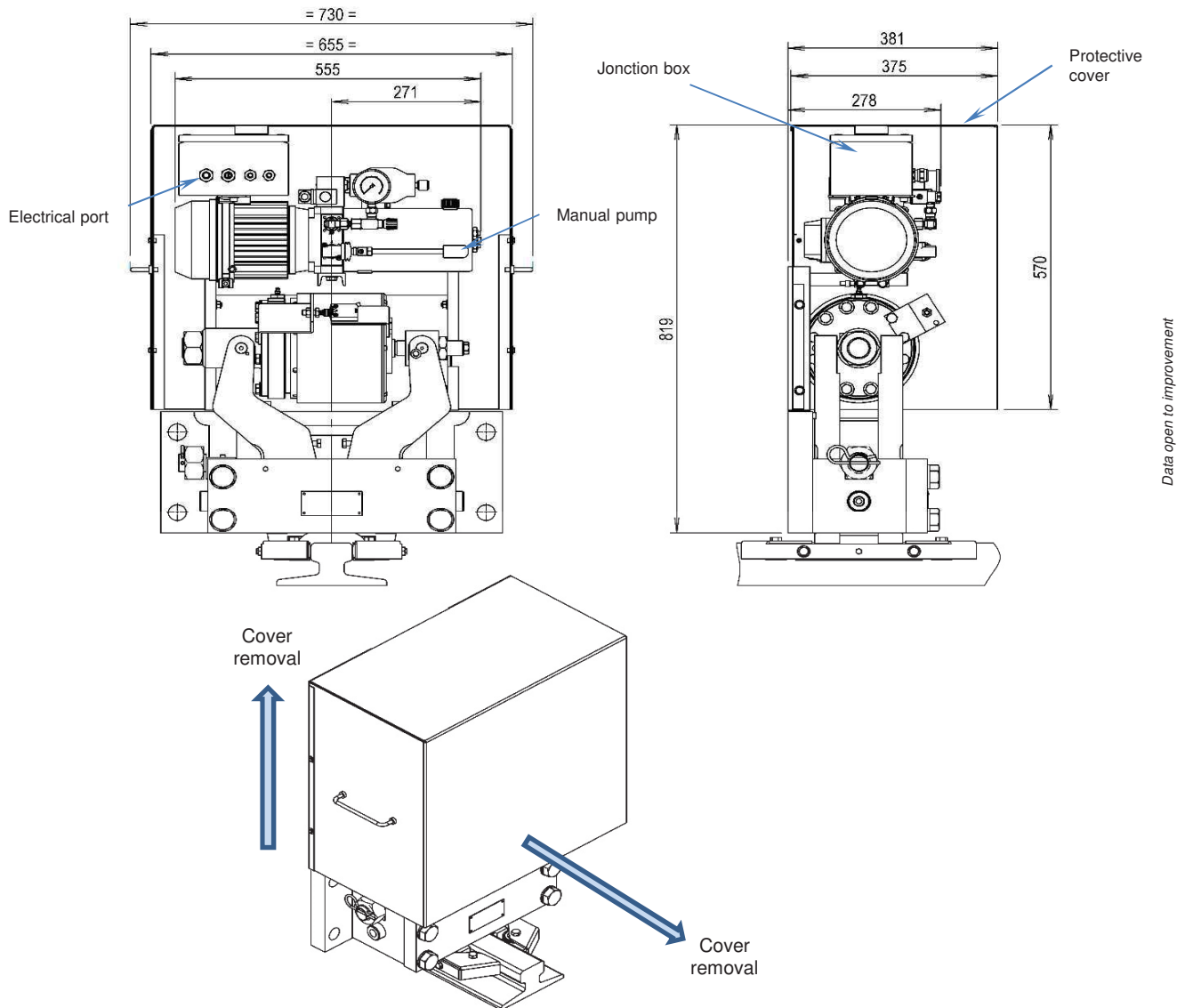
Instruction handbook nr 274

Calculation note ou 3D models available on request
(File nr 12729)

FAIL-SAFE RAIL CLAMP

Spring applied - Hydraulic release

Option: Integrated power pack (CI: TP3 type) and cover



Data open to improvement

Technical features:

Rated voltage (3 phases - 50Hz)
Motor rated power
Maximal pressure
Tank capacity
Weight SH50K CI - SH100K CI
Weight SH200K CI - SH400K CI

V AC	3x400
kW	0,75
bar	230
litre	2,5
kg	244
kg	273

Working conditions:

Ambient temperature	°C	-20 / +60
Humidity	%	< 90
Ingress protection		IP55

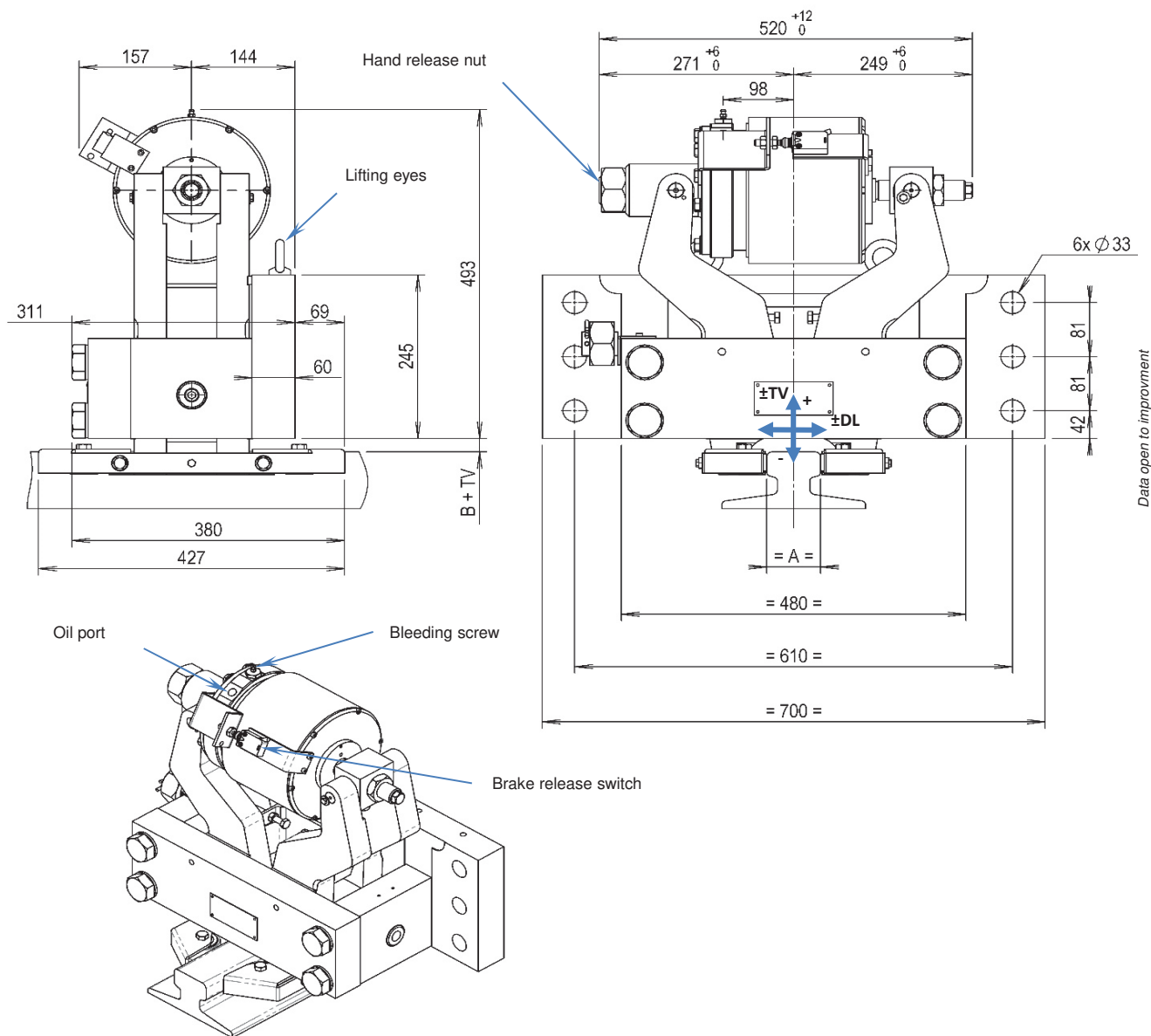
With integrated control unit.
The built-up pressure releases the rail clamp.
Power pack stops once maximal pressure is reached.
Pressure drops whilst rail clamp naturally closes.
Rail clamp naturally close when a power cut/power failure occurs

Others options available, see datasheet F201 of hydraulic power pack

For more details about the hydraulic power pack see datasheet F201
Instruction handbook nr 276

FAIL-SAFE RAIL CLAMP

Spring applied - Hydraulic release



Fastening : 4 Screws M30 Class.10.9 (not supplied)
Cs : 1515 Nm $\pm 5\%$ μ 0,10
Installation recommendation: ANNEX A

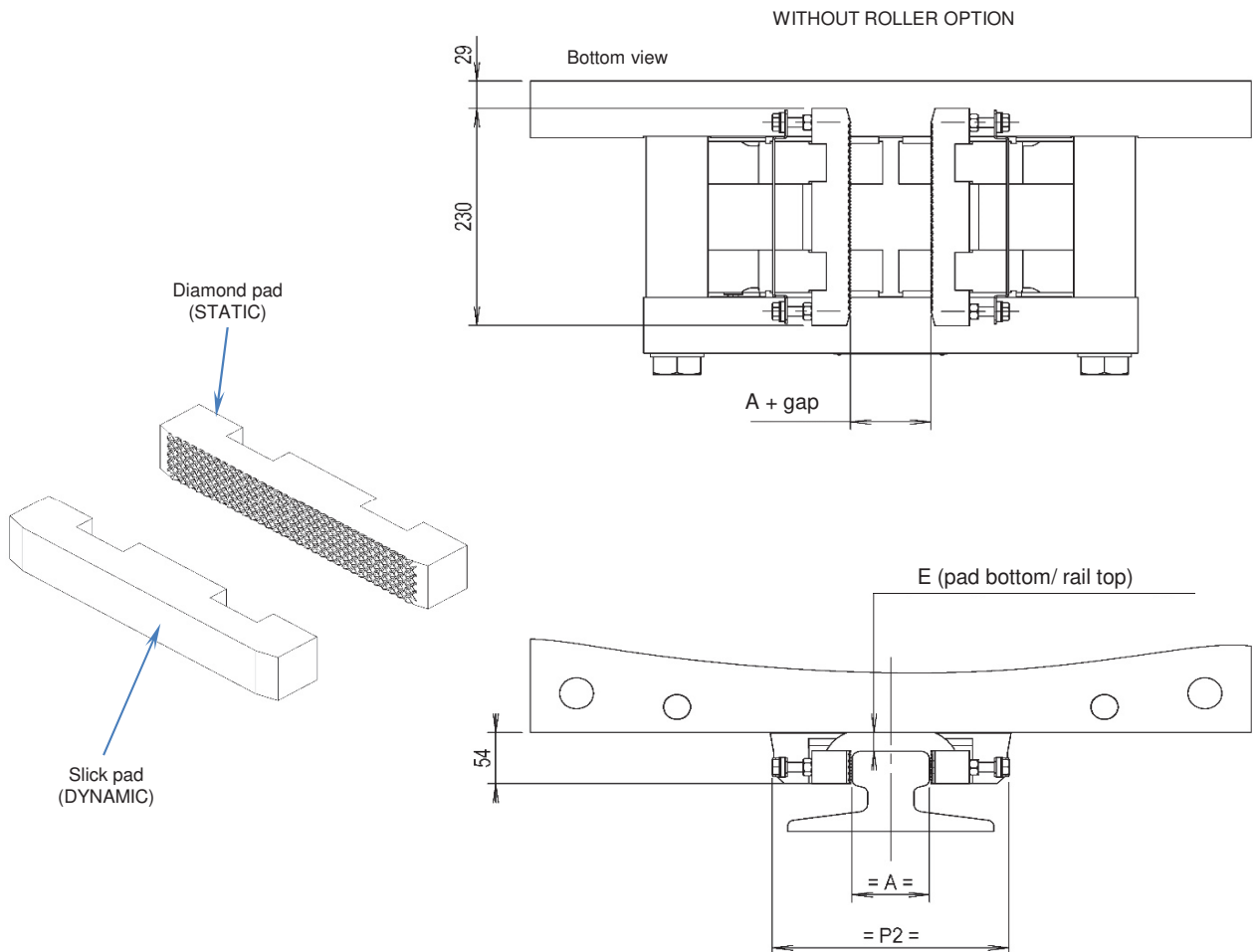
Type of rail		A55	A65	A75	A100	A120	60E6
A	mm	55	65	75	100	120	72
B (nominal value)	mm	25	20	20	15	15	15
TV (Vertical clearance)	mm	+1/-3	+/-4	+2/-5	+/- 5	+/- 5	+2/-5
DL (Lateral clearance)	mm	+/- 30	+/- 30	+/- 30	+/- 20	+/- 20	+/- 30

Technical features :

Execution type		STATIC	DYNAMIC
Braking force :	kN	500	200
Total gap between pads and disc (nominal value)	mm	2	2
Weight	kg	290	290
Oil port		3/8" BSP	3/8" BSP
Displaced volume for complete release	cm ³	220	220
Release pressure	bar	110	110
Maximal pressure	bar	130	130

FAIL-SAFE RAIL CLAMP

Other characteristic and options



Type of rail

A mm
E mm
P2 mm

A55	A65	A75	A100	A120	60E6
55	65	75	100	120	72
29	34	34	41	41	38
238	238	238	273	273	238

Ordering part number :

PINSH **500K** - **A100** - **GL**

Type of rail clamp

Braking force (50;100;200;300;400kN)

Type of rail (A55;A65;A75;A100;A120;60E6)

Type of pads (Static(Ø);Dynamic(GL))

Working conditions:

Ambient temperature
Humidity

°C -20 / +60
% < 90

Monitoring switches:

240V 1,5A AC ; 250V 0,1A DC
Wire 5 x 0.75mm², length 2m., Øext 7.5mm
IP67 protection

Options :

- Integrated power pack (datasheet PRH 1-12)
- Protective cover for rail-brake and power-pack
- Without guide rollers (for dynamic braking)
- Slick pads (for dynamic braking)
- Seawater execution
- Off-shore certifications

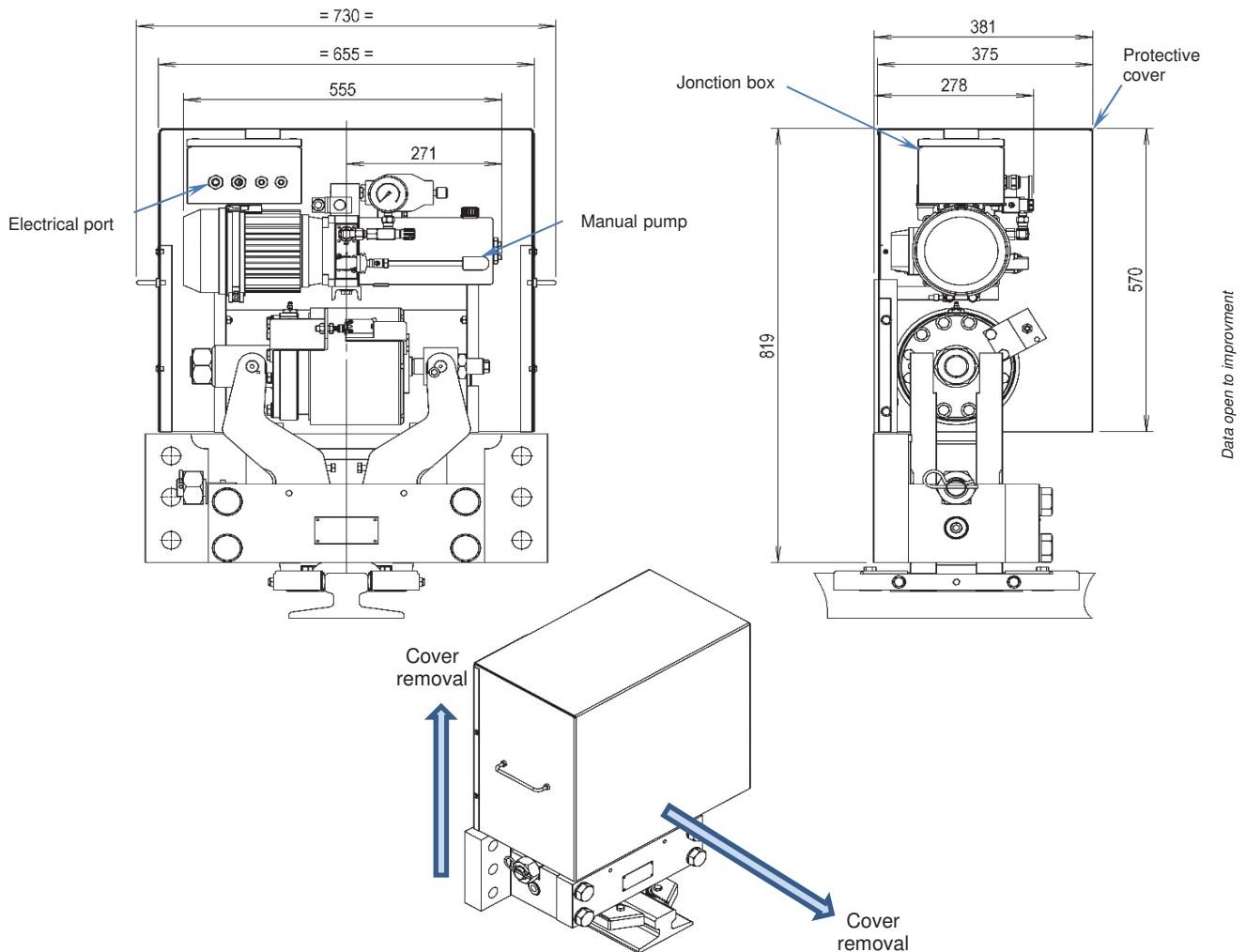
Instruction handbook nr 274

Calculation note ou 3D models available on request
(File 12761)

FAIL-SAFE RAIL CLAMP

Spring applied - Hydraulic release

Option: Integrated power pack (CI: TP3 type) and cover



Technical features:

Rated voltage (3 phases - 50Hz)
Motor rated power
Maximal pressure
Tank capacity
Weight

V AC	3x400
kW	0,75
bar	230
litre	2,5
kg	308

Working conditions:

Ambient temperature	°C	-20 / +60
Humidity	%	< 90
Ingress protection		IP55

Others options available, see datasheet F201 of hydraulic power pack

With integrated control unit.
The built-up pressure releases the rail clamp.
Power pack stops once maximal pressure is reached.
Pressure drops whilst rail clamp naturally closes.
Rail clamp naturally close when a power cut/power failure occurs

For more details about the hydraulic power pack see datasheet F201
Instruction handbook nr 276

ELECTROMECHANIC RAIL CLAMPS



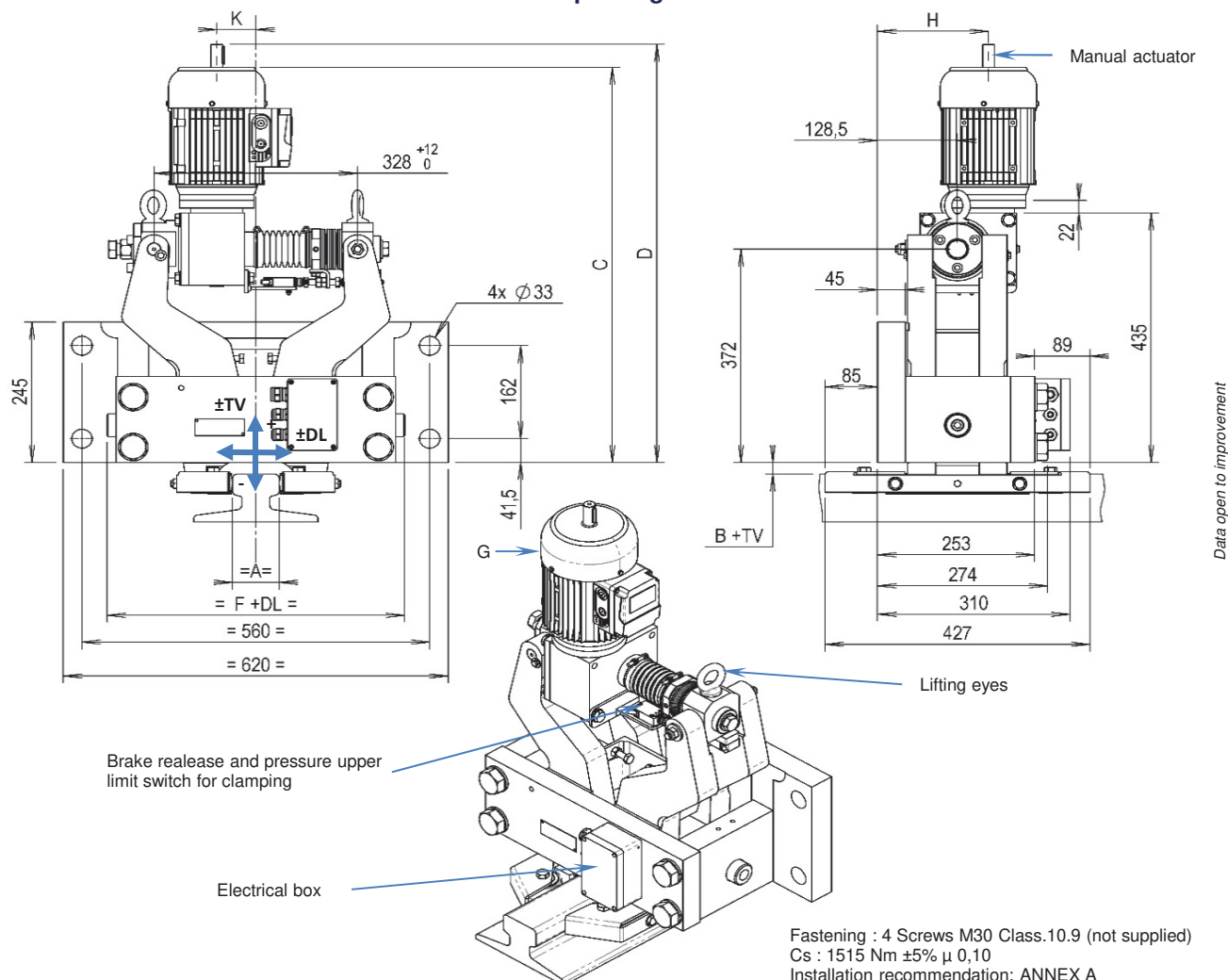
With diamond pads

*Braking force
from 100 to 400 kN*

Static braking only

ELECTROMECHANIC RAIL CLAMP

Electric parking break



Fastening : 4 Screws M30 Class.10.9 (not supplied)
Cs : 1515 Nm $\pm 5\%$ μ 0,10
Installation recommendation: ANNEX A

Type of rail		A55	A65	A75	A100	A120	60E6
A	mm	55	65	75	100	120	72
B (nominal value)	mm	25	20	20	15	15	15
F	mm	479,5	479,5	479,5	486	486	479,5
TV (Vertical clearance)	mm	+1/-3	+/-4	+2/-5	+/- 5	+/- 5	+2/-5
DL (Lateral clearance)	mm	+/- 30	+/- 30	+/- 30	+/- 20	+/- 20	+/- 30

Technical features

Braking force (Static)	kN	100	200
Total gap between pads and disc (nominal value)	mm	3	3
Motor power	kW	0,9	1,8
Response time	s	3,53	3,33
Weight	kg	198	210
Size C	mm	689	703
Size D	mm	729	753
Size H	mm	178,5	198,5
Size K	mm	63	48
Size of the motor G		80	90

Working conditions :

Ambient temperature	°C	-20 / +60
Humidity	%	< 90

Electrical data

Supply voltage (three-phase 50Hz) :	V ac	3x 400
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Monitoring switches

240V 1,5A AC ; 250V 0,1A DC
Wire 5 x 0.75mm², Lg 2m., Øext 7.5mm
IP67 protection

Options :

- Stainless steel protective cover
- Seawater execution
- Horizontal Motor
- Hand wheel

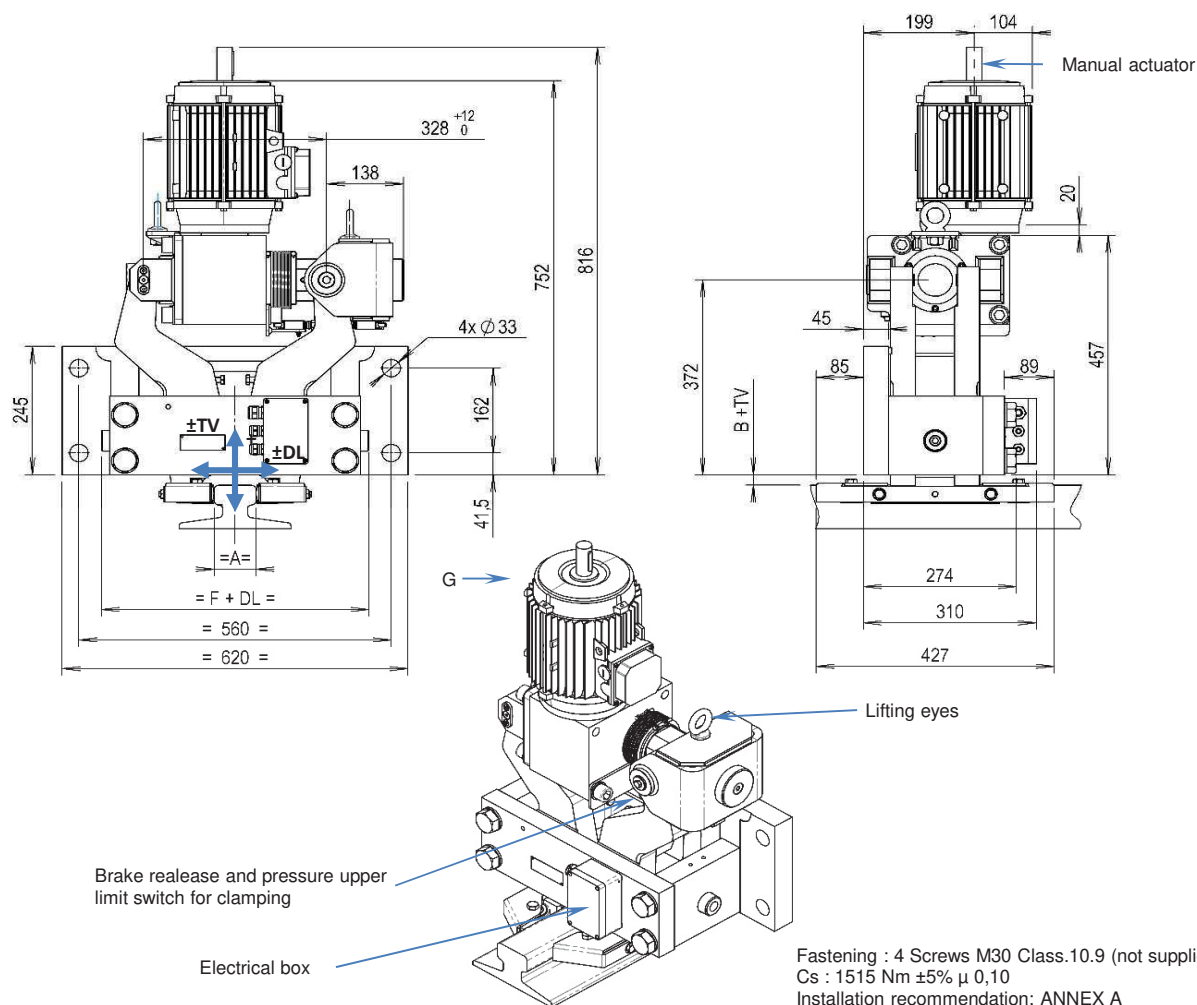
Order code of the RAIL CLAMP:

PINEM **100K** - **A100**

Type of clamp
Braking force (100-200)
Type of rail (A65;A75;A100;A120;60E6)

ELECTROMECHANIC RAIL CLAMP

Electric parking break



Data open to improvement

Fastening : 4 Screws M30 Class.10.9 (not supplied)
Cs : 1515 Nm $\pm$ 5% μ 0,10
Installation recommendation: ANNEX A

Type of rail		A55	A65	A75	A100	A120	60E6
A	mm	55	65	75	100	120	72
B (nominal value)	mm	25	20	20	15	15	15
F	mm	479,5	479,5	479,5	486	486	479,5
TV (Vertical clearance)	mm	+1/-3	+/-4	+2/-5	+/- 5	+/- 5	+2/-5
DL (Lateral clearance)	mm	+/- 30	+/- 30	+/- 30	+/- 20	+/- 20	+/- 30

Technical features

Braking force (Static)	kN	400
Total gap between pads and disc (nominal value)	mm	3
Motor power	kW	4,7
Response time	s	3,06
Weight	kg	273
Size of the motor G		112

Working conditions :

Ambient temperature	°C	-20 / +60
Humidity	%	< 90

Electrical data

Tension (three-phase 50Hz) :	V ac	3x 400
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Monitoring switches

240V 1,5A AC ; 250V 0,1A DC
Wire 5 x 0.75mm², Lg 2m., Øext 7.5mm
IP67 protection

Options :

- Stainless steel protective cover
- Seawater execution
- Horizontal Motor
- Hand wheel

Order code of the RAIL CLAMP:

PINEM 400K - A100

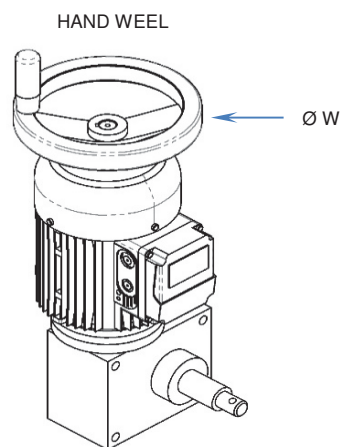
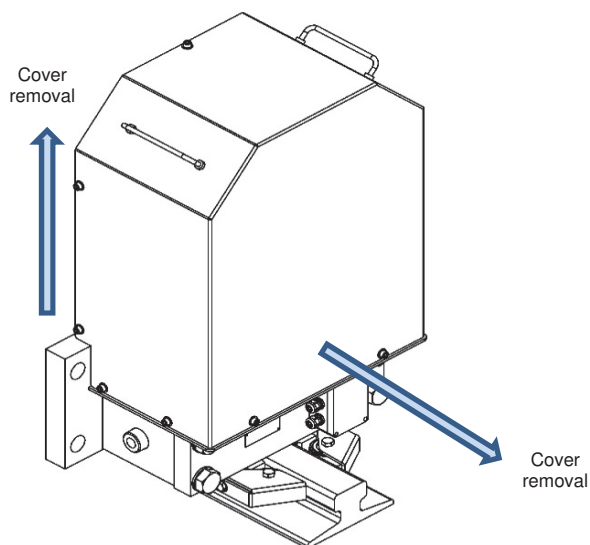
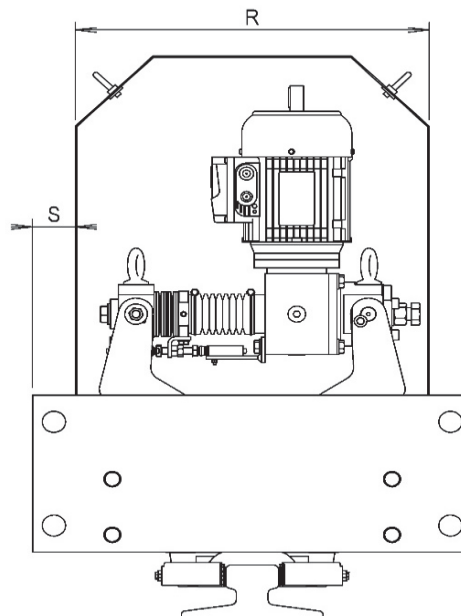
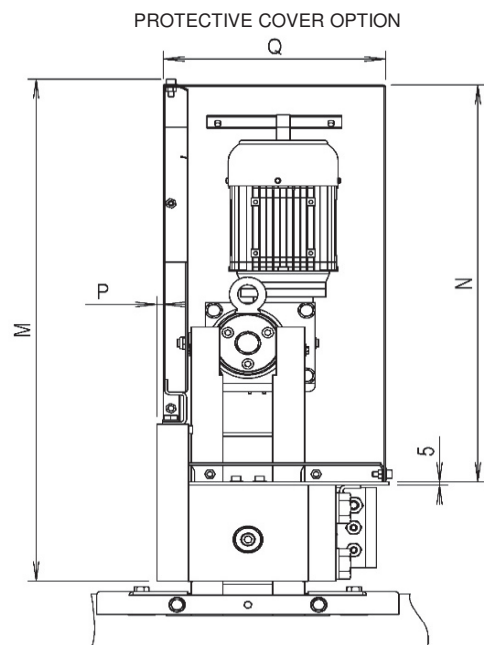
Type of clamp

Braking force (400)

Type of rail (A65;A75;A100;A120)

ELECTROMECHANIC RAIL CLAMP

Options



Data open to improvement

Protective cover dimensions

Braking force (Static)		kN	100	200	400
M	mm		784	784	844
N	mm		620	620	680
P	mm		9	9	1
Q	mm		314	314	322
R	mm		500	500	559
S	mm		60	60	61
Weight	Kg		23	23	27,5

Hand wheel option

Ø W	mm	200	250	300
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Instruction handbook nr 297
Calculation note ou 3D models available on request
(File nr 12729)

MANUAL RAIL CLAMPS



* Picture not contractual

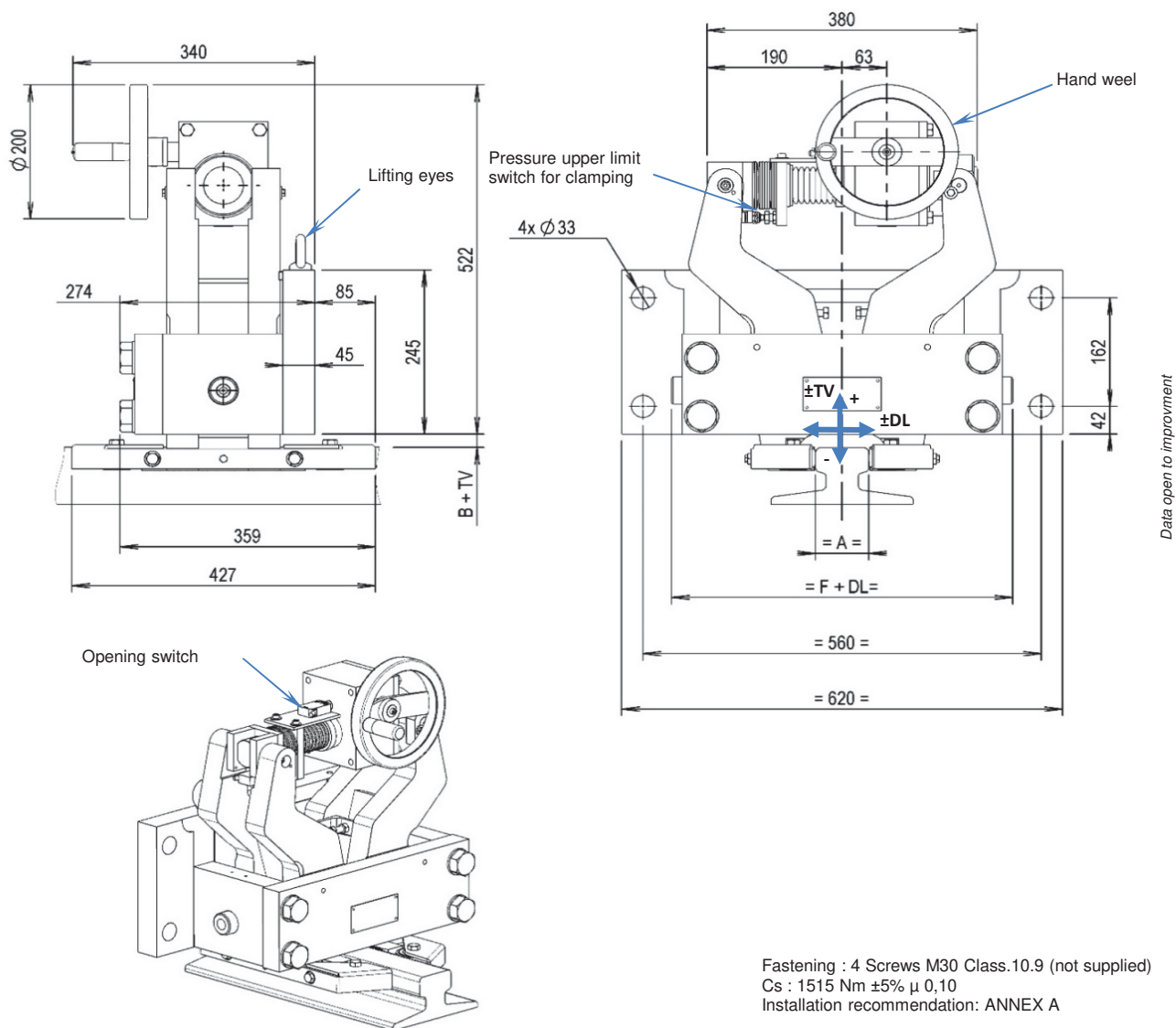
With diamond pads

*Braking force
100 kN*

For static braking only

MANUAL RAIL CLAMP

Manual braking and unbraking



Fastening : 4 Screws M30 Class.10.9 (not supplied)
Cs : 1515 Nm $\pm 5\%$ μ 0,10
Installation recommendation: ANNEX A

Type of rail		A55	A65	A75	A100	A120	60E6
A	mm	55	65	75	100	120	72
B (nominal value)	mm	25	20	20	15	15	15
F	mm	479,5	479,5	479,5	486	486	479,5
TV (Vertical clearance)	mm	+1/-3	+/-4	+2/-5	+/- 5	+/- 5	+2/-5
DL (Lateral clearance)	mm	+/- 30	+/- 30	+/- 30	+/- 20	+/- 20	+/- 30

Technical features :

Braking force (STATIC)	kN	100
Total gap between pads and disc (nominal value)	mm	3
Hand wheel torque	Nm	8
Hand wheel max. rotation nr	-	60
Weight :	kg	170

Working conditions:

Ambient temperature	°C	-20 / +60
Humidity	%	< 90

Monitoring switches:

240V 1,5A AC ; 250V 0,1A DC
Wire 5 x 0.75mm², length 2m., Øext 7.5mm
IP67 protection

Options :

- Stainless steel protective cover
- Seawater execution

Instruction handbook nr 275

Calculation note ou 3D models available on request
(File 12729)

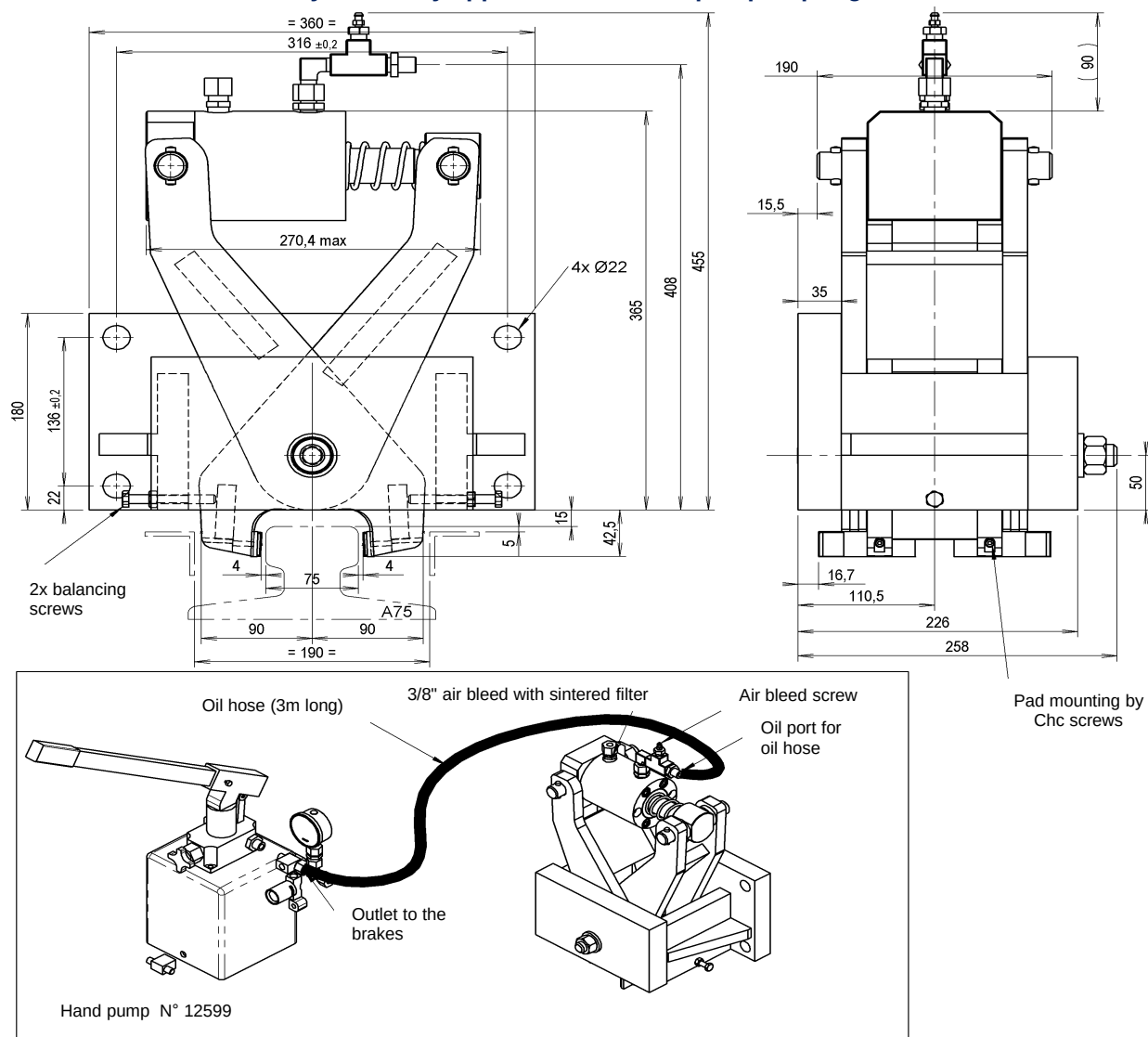
Ordering part number :

PINMA 100K - A100

Type of rail clamp
Braking force (100kN)
Type of rail (A55;A65;A75;A100;A120;60E6)

DIRECT ACTION RAIL CLAMP

Hydraulically applied with manual pump - Spring return



Data open to improvement

Technical features:

Braking force
Total gap between pads and disc (nominal value)
Closing pressure
Volume for closing
Manual pumping total number
Effortless manual pumping number
Rail thickness
Weight

kN	20
mm	8
bar	140
cm ³	37
	3
	2
mm	75
kg	90

Working conditions:

Ambient temperature -20° / +60°C
Humidity < 90 %

Options:

- Fixation set (4xM20 screws, nuts and washers)
- Protective cover
- Seawater execution

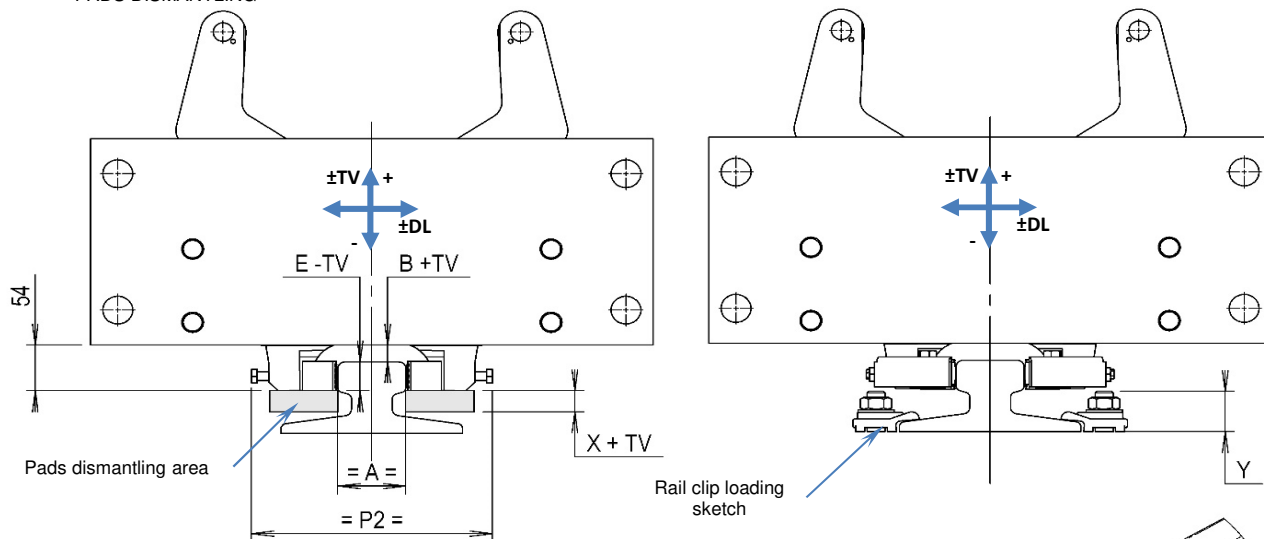
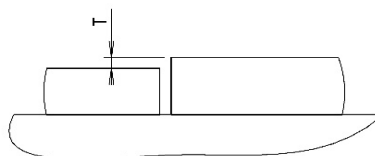
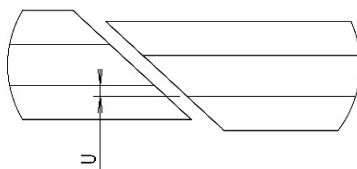
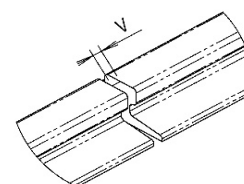
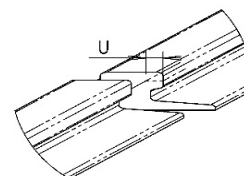
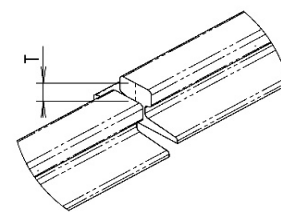
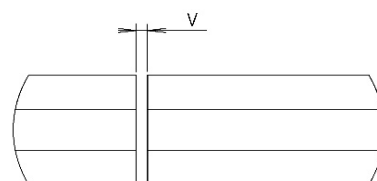
Fastening : 4 Screws M20 Class.8,8 (not supplied)
Cs : 370 Nm ±10% μ 0,15

Instruction handbook nr 217
Calculation note ou 3D models available on request

ELECTROMECHANIC RAIL CLAMP

Installation recommendation

AXIAL VIEW / RAIL
PADS DISMANTLING

AXIAL VIEW / RAIL
RAIL CLIP LOADING SKETCH

SIDE VIEW
Height difference between two rails

BOTTOM VIEW
Alignment difference between two rails

TOP VIEW
Gap between two rails


Data open to improvement

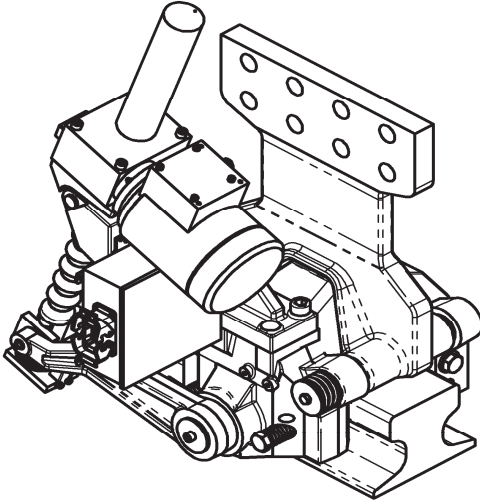
Type of rail:

		A55	A65	A75	A100	A120	60E6
A	mm	55	65	75	100	120	72
B nominal (rail top / base plate bottom)	mm	25	20	20	15	15	15
P2	mm	255	255	265	297	310	266
E (pad bottom / rail top)	mm	29	34	34	39	39	39
X	mm	16	22	30	35	40	100
TV (Vertical clearance)	mm	+1/-3	+/-4	+2/-5	+/- 5	+/- 5	+2/-5
DL (Lateral clearance)	mm	+/- 30	+/- 30	+/- 30	+/- 20	+/- 20	+/- 30
Y maxi (Y nominal value - TV)	mm	35	40	50	55	65	132
T max.	mm	1	1,5	1,5	1,5	1	1
U max.	mm	1,17	1,17	1,17	1,17	1,17	1,17
V max.	mm	2,33	2,33	2,33	2,33	2,33	2,33

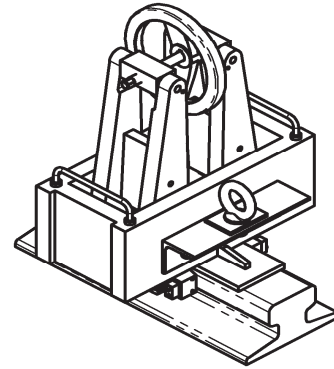
Note : For any other type of rail, contact ATV

Instruction handbook nr 297
Calculation note ou 3D models available on request
(File nr 12729)

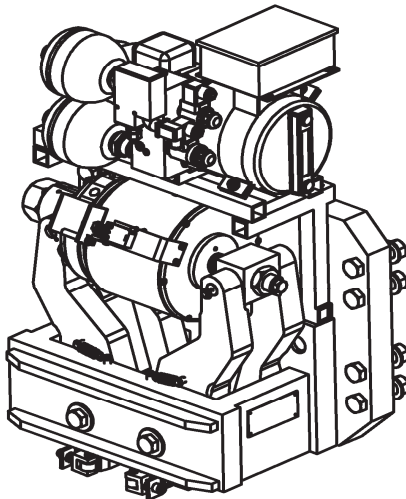
EXAMPLES



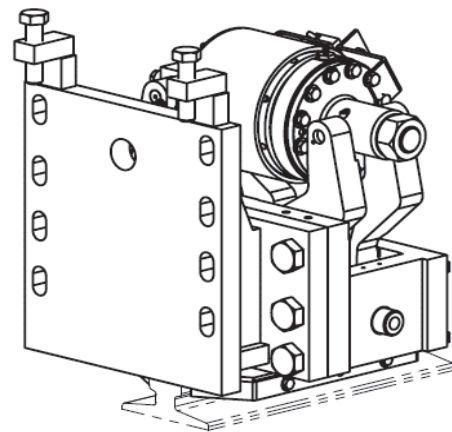
EM420
ELECTRO-MECHANICAL ACTUATION
330 KN - A150 RAIL
Bistable actuation



EM420
ELECTRO-MECHANICAL ACTUATION
330 KN - A150 RAIL
Rotative actuation



60SH RAIL CLAMP
Big clearance - 50 KN
*Braking on IPN wing
Stretched tolerances*



SH300K RAIL CLAMP
300kN - A65 RAIL
*Fixation on a support for
adjustable height*

The ATV team is at your disposal for all specific requests.

FAIL-SAFE STORM BRAKES



With diamond pads

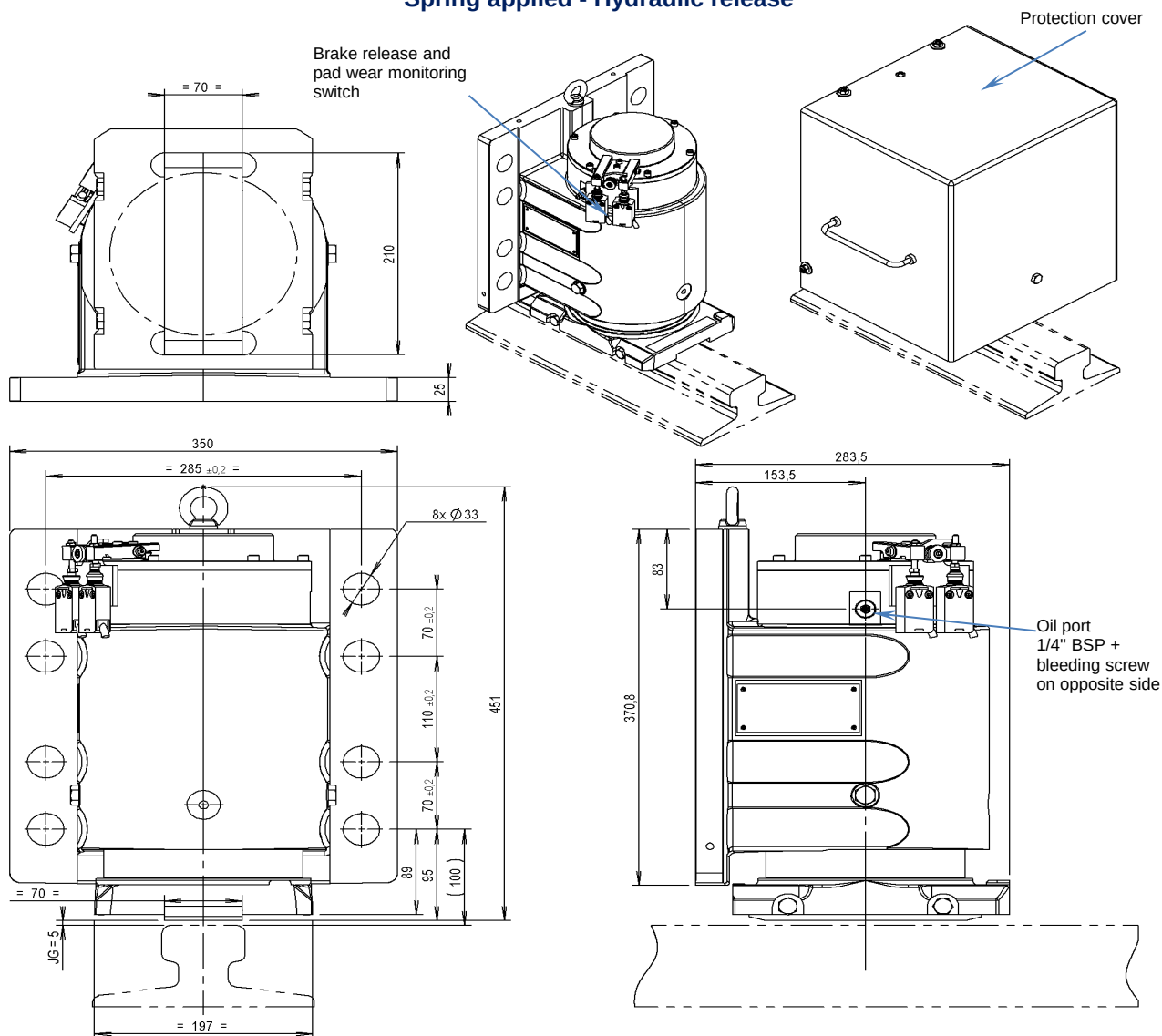
*Braking force
110 and 230 kN*

Static brake only.

*Every emergency stop
requires new pads*

FAIL-SAFE STORM BRAKE

Spring applied - Hydraulic release



Data open to improvement

Technical features:

Braking force (static)
Applied force on rail
Total gap between pads and rail (nominal)
Release pressure
Maximal pressure
Useful volume
(with 5 mm gap between pads and rail)
Weight
Weight with protection cover

kN	110
kN	200
mm	5
bar	210
bar	230
cm ³	90
kg	130
kg	140

Working conditions :

Ambient temperature: -20° / +60°C
Humidity: < 90 %

Monitoring switches:

240V 1,5A AC ; 250V 0,1A DC
Wire 5 x 0.75mm², length 2m., Øext 7.5mm
IP67 protection

Options:

- Protective cover
- Mounting kit (screws, nuts, washers)
- Integrated power pack and mounting support
- Increased closing time with flow limiter
- Seawater execution

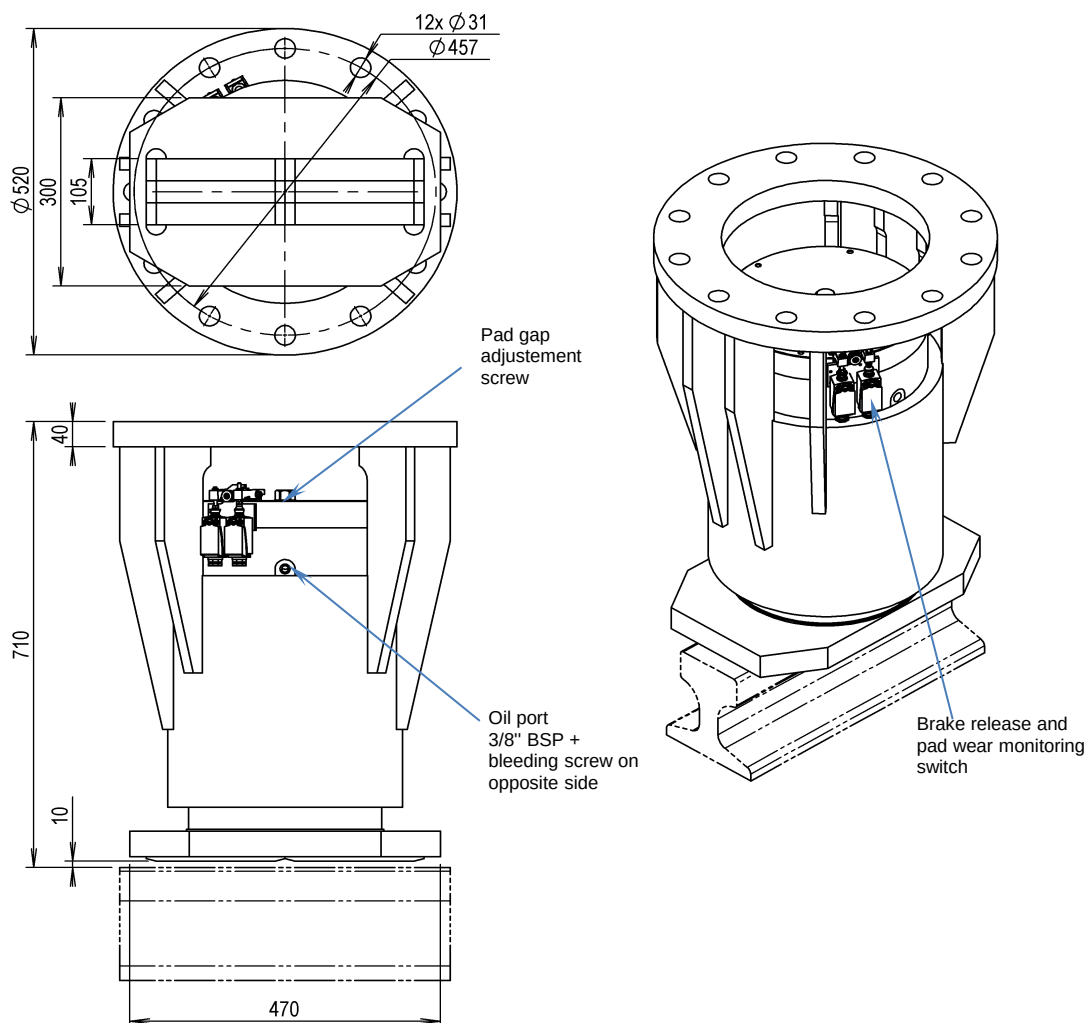
1 off handling ring included

Fastening: 8x M30 screws class 8.8 (not supplied)
Cs: 1280 Nm ±10% μ 0,15

Instruction handbook nr 258
Calculation notes or 3D models available on request

FAIL-SAFE STORM BRAKE

Spring applied - Hydraulic release



Data open to improvement

Technical features:

Braking force (static)
Applied force on rail
Total gap between pads and rail (nominal)
Release pressure
Maximal pressure
Useful volume
(with 10 mm gap between pads and rail)
Weight

kN	230
kN	407
mm	10
bar	200
bar	230
cm ³	450
kg	450

Working conditions :

Ambient temperature: -20° / +60°C
Humidity: < 90 %

Monitoring switches:

240V 1,5A AC ; 250V 0,1A DC
Wire 5 x 0.75mm², length 2m., Øext 7.5mm
IP67 protection

Options:

- Protective cover
- Mounting kit (screws, nuts, washers)
- Integrated power pack and mounting support
- Increased closing time with flow limiter
- Seawater execution

1 off handling ring included

Fastening: 12x M30 screws class 8.8 (not supplied)
Cs: 1280 Nm ±10% μ 0,15

Calculation notes or 3D models available on request
File nr 12746

[illegible]

Creative solutions for the industry

Notes



Creative solutions for the industry

Direction commerciale

54, route de Sartrouville
F-78230 LE PECQ
Tél : +33 1 30 15 41 00
Fax : +33 1 30 15 41 19
Courriel : info@atv.fr

ATV Usine - SAV

Route de la libération
F-08300 RETHEL
Tél : +33 3 24 38 26 26
Fax : +33 3 24 38 25 33