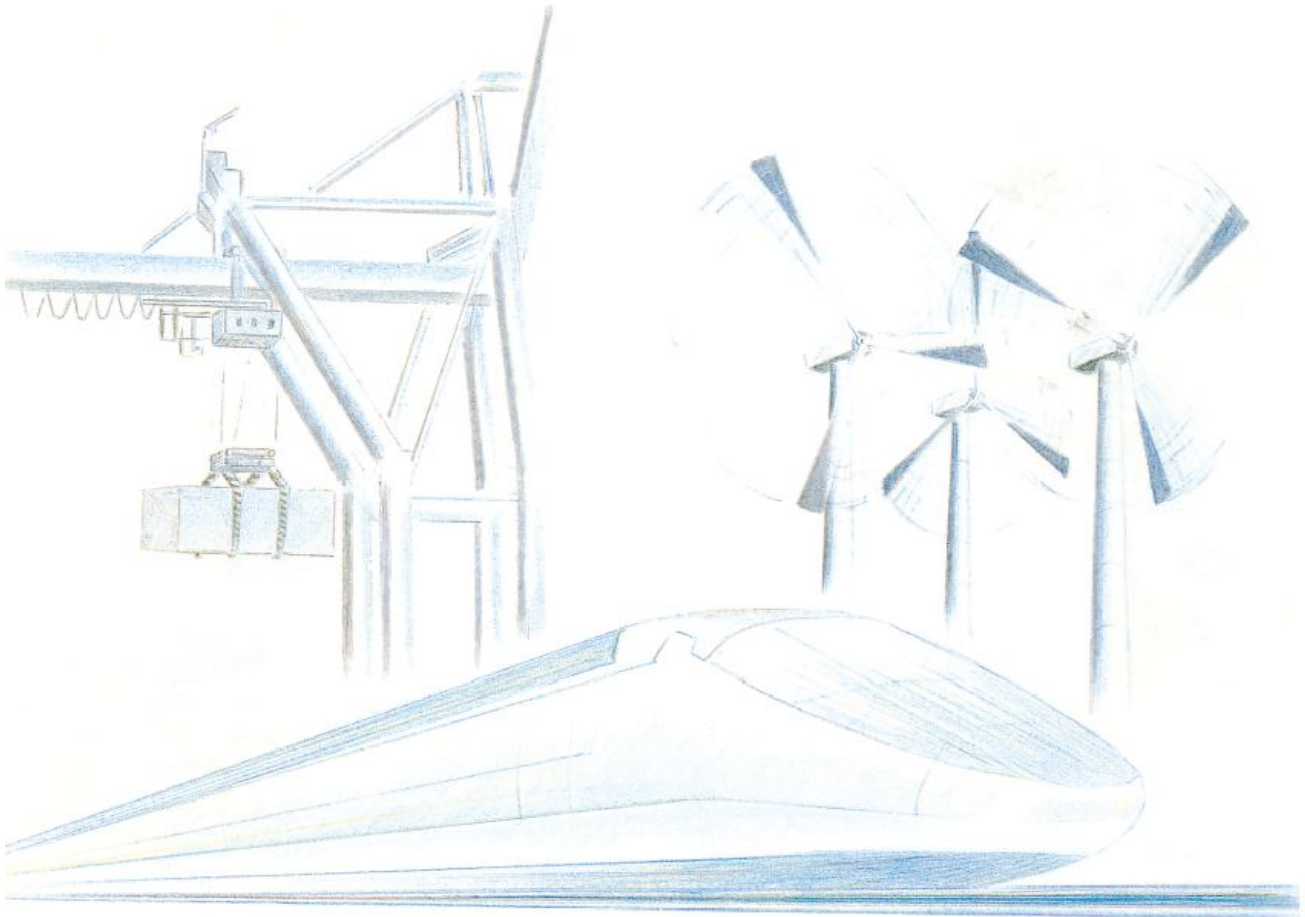


## Storm brakes SH-K and AP-K range



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,
- Bulk loading/unloading systems,
- 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.

ATV has called on all of its industrial disk brake expertise in designing this range. 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 the vehicle has come to a complete halt.

**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. They are provided with maximum safety as no movement at all is possible, including tipping over the crane. The ATV rail clamps' floating design provides maximum compliance to adapt to all rail straight line faults.

The **ATV rail supports** provide a safety solution if the rail sides are not accessible (e.g.: rail sunk into the concrete). The rail support 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.

There is a wide range of possible applications and solutions; contact your ATV representative for more information or to request a specific solution.

	SH50K	SH100K	SH200K	SH300K	SH400K	MA100K	SHGJ 90K CI	ADH20K	PR TH4	AP110K	AP225K
Type	Rail clamp									Rail brake	
Release	Hyd.	Hyd.	Hyd.	Hyd.	Hyd.	manual	Hyd.	Direct action	Electro-hyd.	Hyd.	Hyd.
Braking force [kN] (Dynamic)	13	25	50	75	100	-	-	20	-	-	-
Braking force [kN] (Static)	50	100	200	300	400	100	90	-	26	110	225
Release pressure [bar]	110	110	105	105	115	-	100	140 *	-	210	210
Rail width [mm]	55 thru 120	55 thru 120	55 thru 120	55 thru 120	55 thru 120	55 à 100	65	75	50 thru 75	-	-
Weight [kg]	185	185	213	213	213	170	200	90	121	126	405
Weight [kg] (With power pack)	221	221	250	250	250	-	230	-	-	-	-

\* Closing pressure





**FAIL-SAFE RAIL CLAMP**



*With slick pads*

*Braking force  
from 12,5 to 100 kN*

*For low speed  
and dynamic braking*

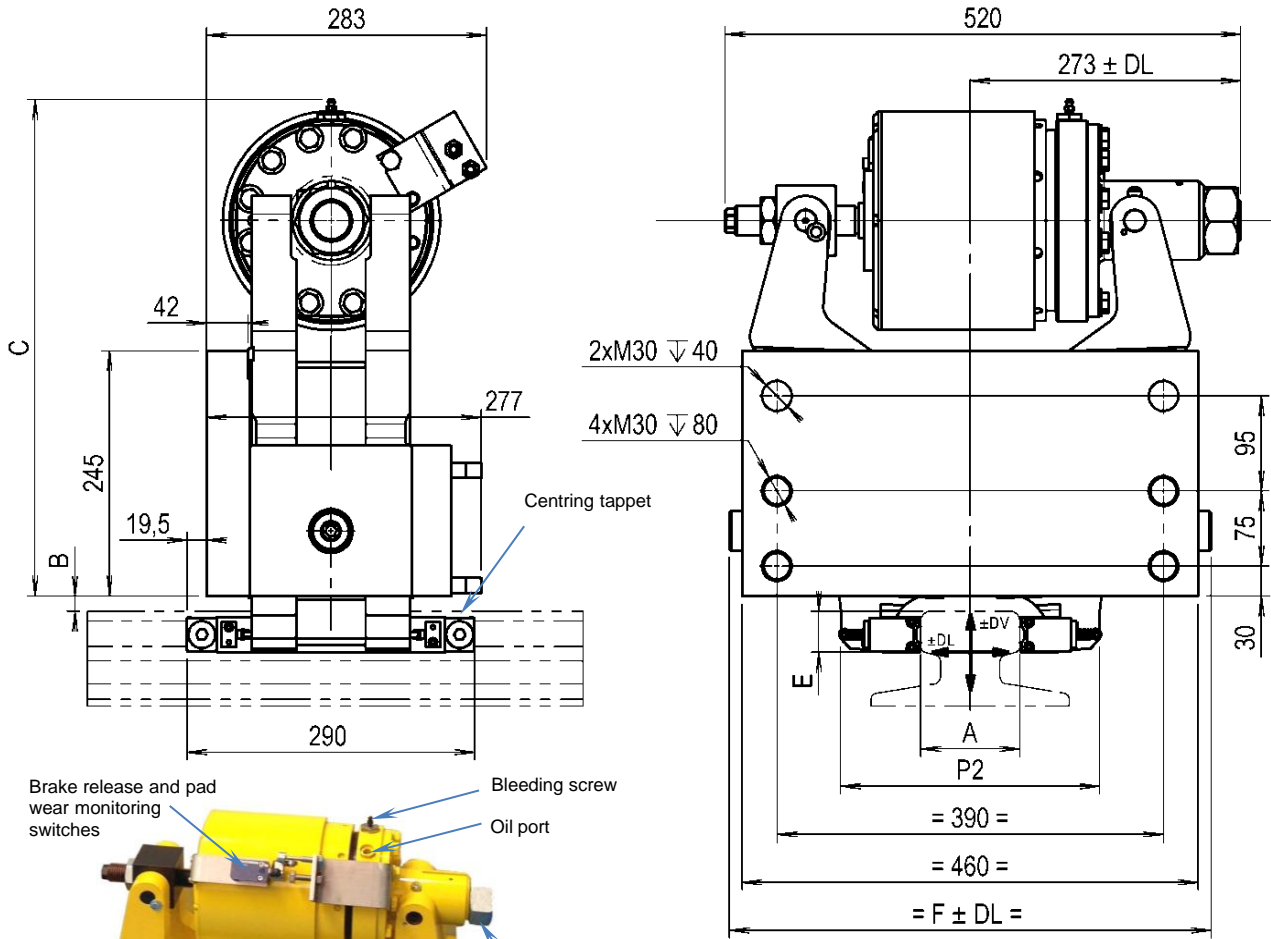
*With vice jaw pads*

*Braking force  
from 50 to 400 kN*

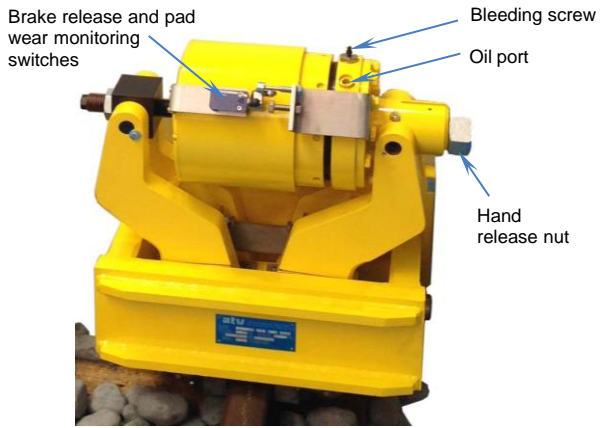
*For static braking only.  
Exceptional emergency  
stop with pad replacement*



**FAIL-SAFE RAIL CLAMP**  
 Spring applied - Hydraulic release



Data open to improvement



The braking force may be set according to customer specifications

Fastening: 6x M30 screws class 10.9 (not supplied)  
 Cs : 1400 Nm ±10% μ 0,10

Type of rail	A55	A65	A75	A100	A120	UIC60
A	55	65	75	100	120	72
B	25	20	20	15	15	15
E	29	34	34	41	41	38
F	479,5	479,5	479,5	486	486	479,5
P2	226	226	236	262	271	236
DV (Vertical clearance)	+/- 10	+/- 10	+/- 10	+/- 10	+/- 10	+/- 10
DL (Latéral clearance)	+/- 30	+/- 30	+/- 30	+/- 20	+/- 20	+/- 30

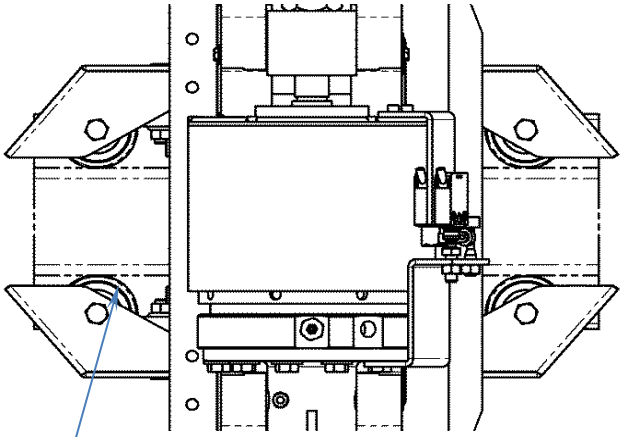
	SH50K	SH100K	SH200K	SH300K	SH400K
Braking force (Static)	kN 50	100	200	300	400
Braking force (Dynamic)	kN 12,5	25	50	75	100
Pads clearance	mm 3	3	2,5	2	1,6
C	mm 484		497		
Weight	kg 185		213		
Oil port	1/4" BSP		3/8" BSP		
Displaced volume for complete release	cm <sup>3</sup>	80		220	
Release pressure	bar	110	105	105	115
Maximal pressure	bar	130	130	130	130



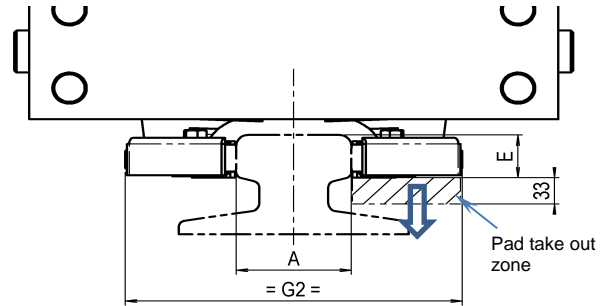
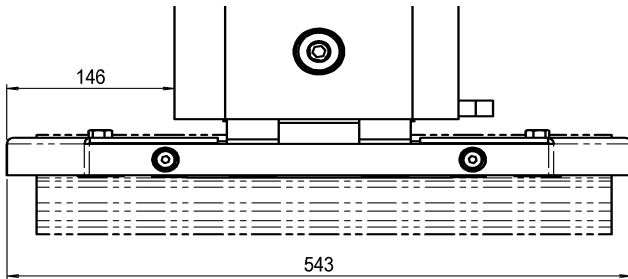
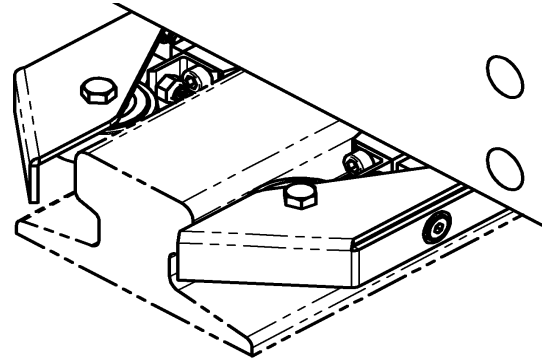
**FAIL-SAFE RAIL CLAMP**  
 Other characteristic and options

**Option guide rollers**

The guide rollers enable better alignment than with push rods when the rail alignment faults are too high



Guide rollers



Data open to improvement

Type of rail		A55	A65	A75	A100	A120	UIC60
A	mm	55	65	75	100	120	72
E	mm	29	34	34	41	41	38
G2	mm	245	258	268	290	310	266

Ordering part number: **PINSH** **400K** - **A100** - **GL**

**Type of rail clamp** —————

**Braking force (kN)** —————

50

100

200

300

400

**Type of rail** —————

A55

A65

A75

A100

A120

UIC60

**Type of pads** —————

Dynamic (without indication)

Static (GL)

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

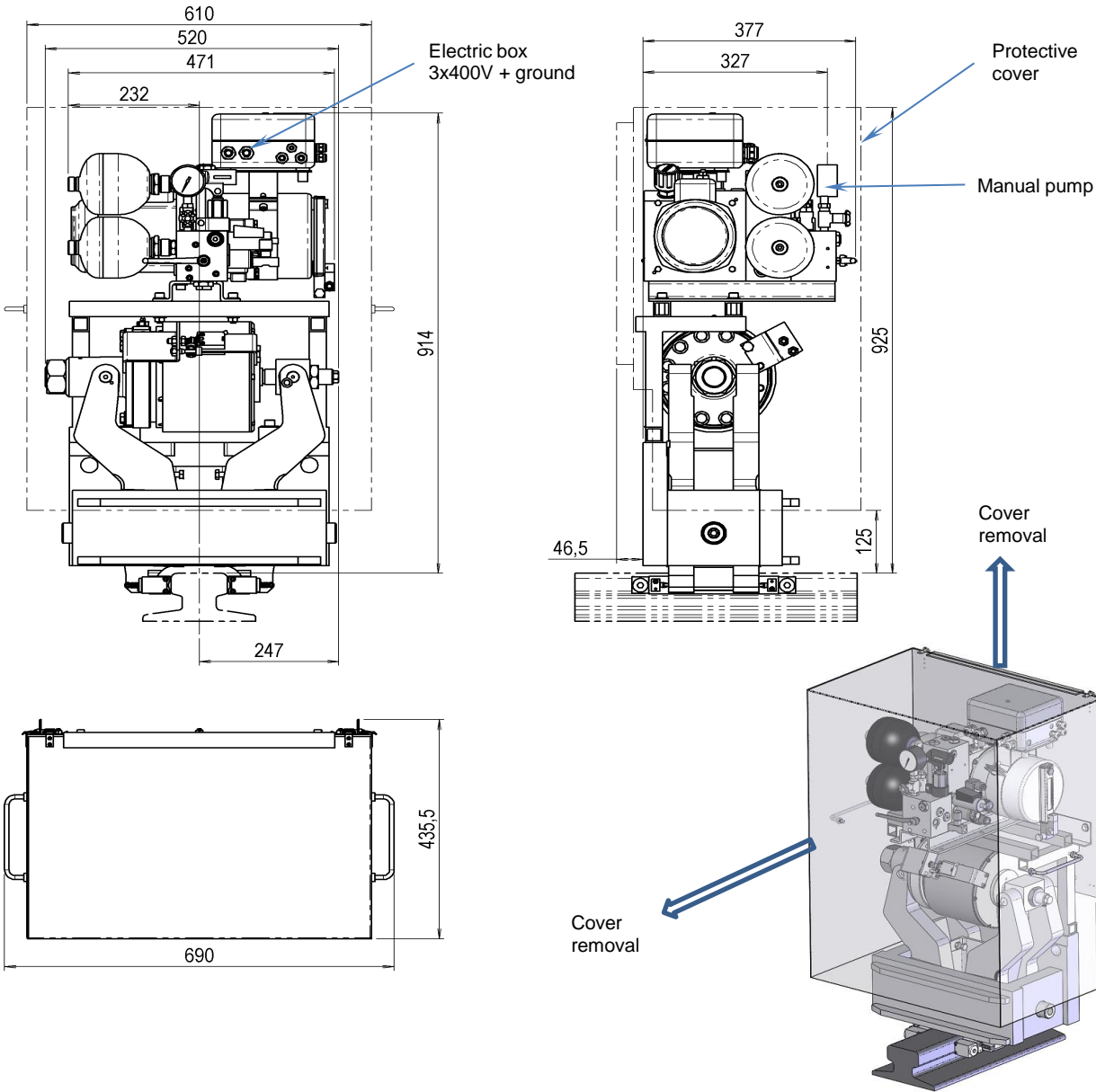
**Monitoring switches:**  
 240V 1,5A AC ; 250V 0,1A DC  
 Wire 5 x 0.75mm<sup>2</sup>, length 2m., Øext 7.5mm  
 IP67 protection

- Options:**
- Integrated power pack (datasheet 12729-FT3)
  - Guide rollers
  - Protective cover for rail-brake and power-pack
  - Slick pads (for dynamic braking)
  - Seawater execution
  - Off-shore certifications
  - ATEX certifications

Calculation notes or 3D models available on request  
 Instruction handbook nr 274



**FAIL-SAFE RAIL CLAMP**  
 Spring applied - Hydraulic release  
 With integrated power pack (CI)



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)

Vca	400
kW	0,55
bar	230
liter	2,5
kg	221
kg	250

**Working conditions:**

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

**Options:**

- Integrated manual pump
- Flow limiter
- Stainless steel protective cover
- 500 Vac voltage

Others options available, see datasheet F210 of hydraulic power pack

Instruction handbook nr 274

Power pack instruction handbook nr 268

With integrated control unit.

When power on, the built-up pressure releases the rail clamp.

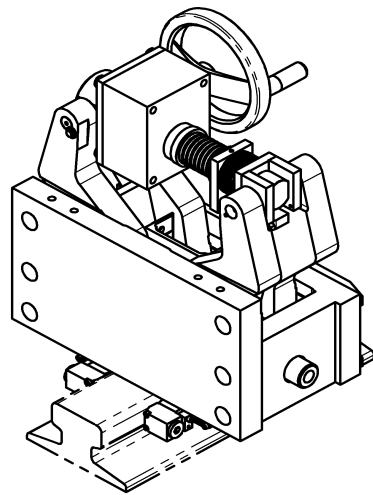
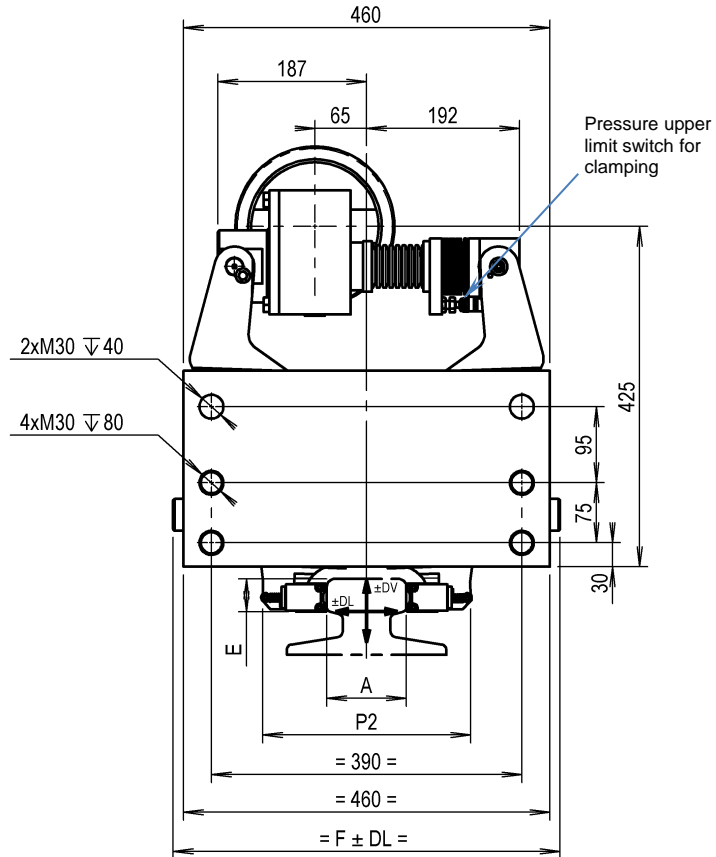
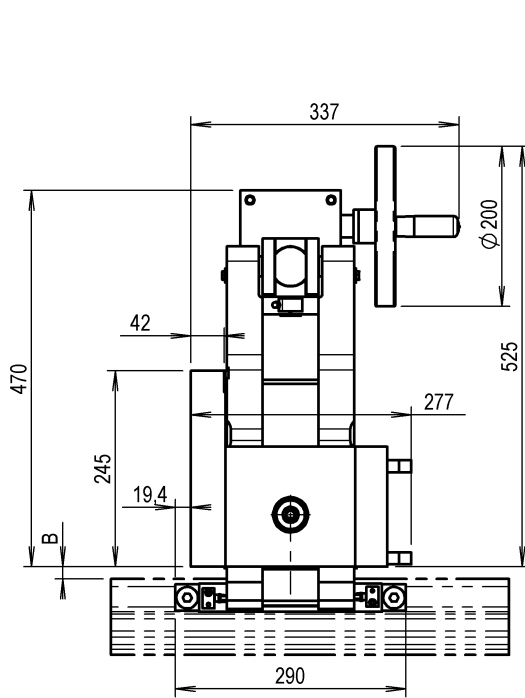
Pump stops once maximal pressure is reached.

When power off, pressure drops whilst rail clamp naturally closes.





**MANUAL RAIL CLAMP**  
Manual braking and unbraking



Type of rail  
A  
B  
E  
F  
P2  
DV (Vertical clearance)  
DL (Lateral clearance)

Fastening: 6x M30 screws class10.9 (not supplied)  
Cs : 1400 Nm ±10% μ 0,10

	A55	A65	A75	A100
A	55	65	75	100
B	25	20	20	15
E	29	34	34	41
F	479,5	479,5	479,5	486
P2	226	226	236	262
DV	+/- 10	+/- 10	+/- 10	+/- 10
DL	+/- 30	+/- 30	+/- 30	+/- 20

Data open to improvement

**Technical features:**

Braking force (Static)	kN	100
Pads clearance	mm	3
Hand wheel torque	Nm	8
Hand wheel max. rotation no	-	60
Weight	kg	170

**Working conditions:**

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

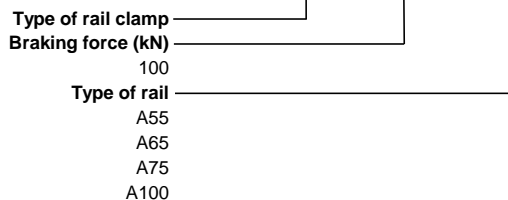
**Monitoring switches:**

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

**Options :**

- Guide rollers (see 12729-FT2)
- Stainless steel protective cover
- Seawater execution
- ATEX certifications

Ordering part no: **PINMA 100K - A100**



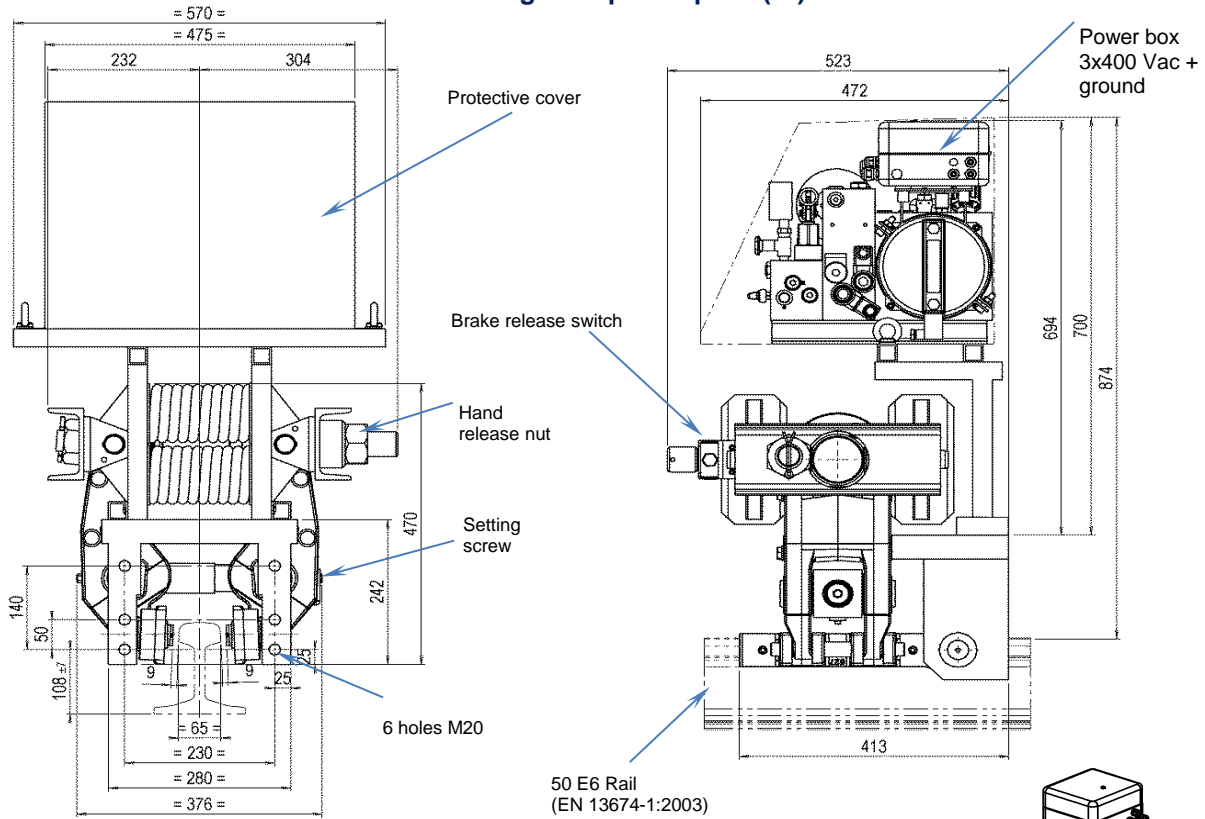
Instruction handbook nr 275  
Calculation notes or 3D models available on request



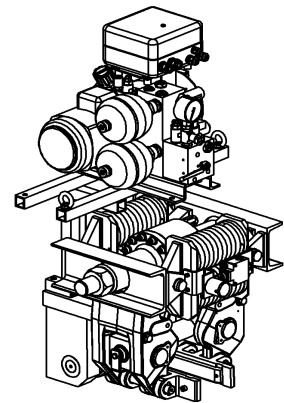
**FAIL-SAFE RAIL CLAMP**

Spring applied - Hydraulic release - Big clearance

With integrated power pack (CI)



Fastening: 6x M20 screws class 8.8 (not supplied)  
 Cs : 150 Nm ±20% μ 0,15



Data open to improvement

**Technical features:**

Braking force	kN	<b>90</b>
Total gap between pads and rail (nominal)	mm	18
Release pressure	bar	100
Maximal pressure	bar	130
Displaced volume for complete release	cm <sup>3</sup>	97
Rail width (50 E6)	mm	65
Weight	kg	230

**Working conditions**

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

**Monitoring switch:**

240V 3A AC ; 250V 0,27A DC  
 PG11 cable gland  
 IP66 Protection

**Options :**

- Integrated manual pump
  - Flow limiter
  - Stainless steel protective cover
  - 500 Vac voltage
- Others options available, see datasheet F210 of hydraulic power pack
- ATEX certifications

*Instruction handbook nr 210*

*Calculation notes or 3D models available on request*

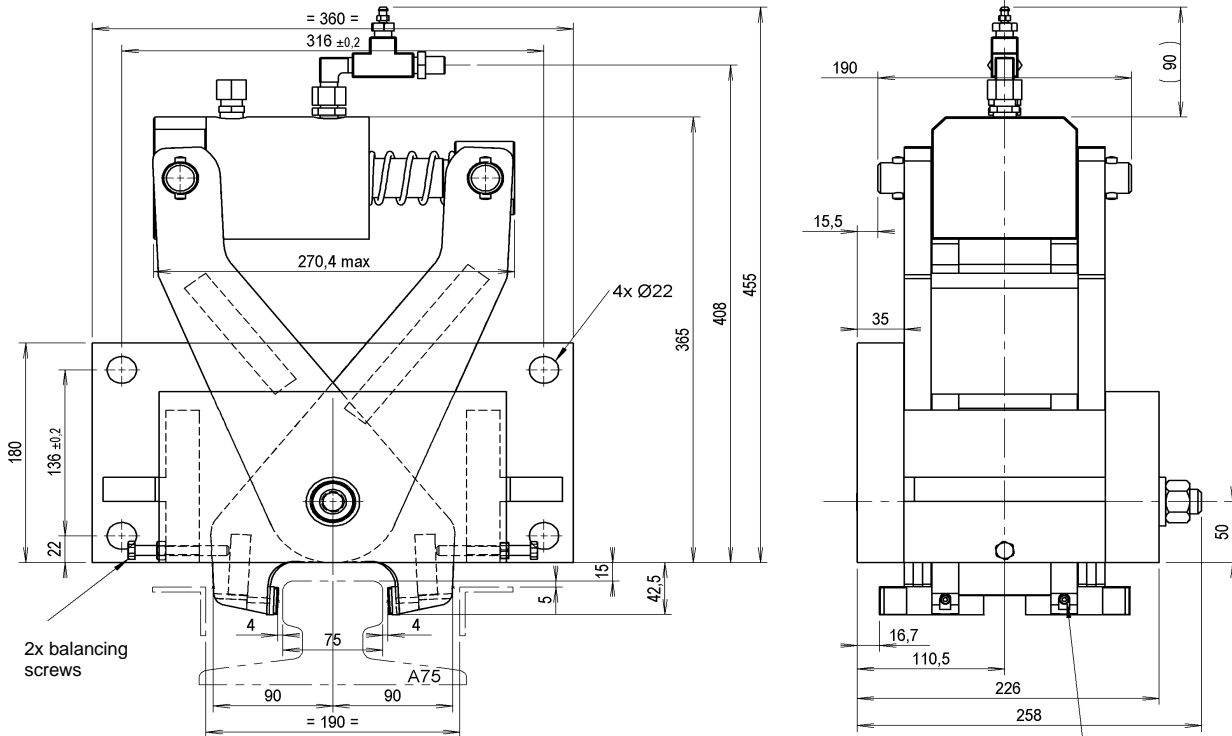
Ordering part no: **PINRAIL 12608-CI**



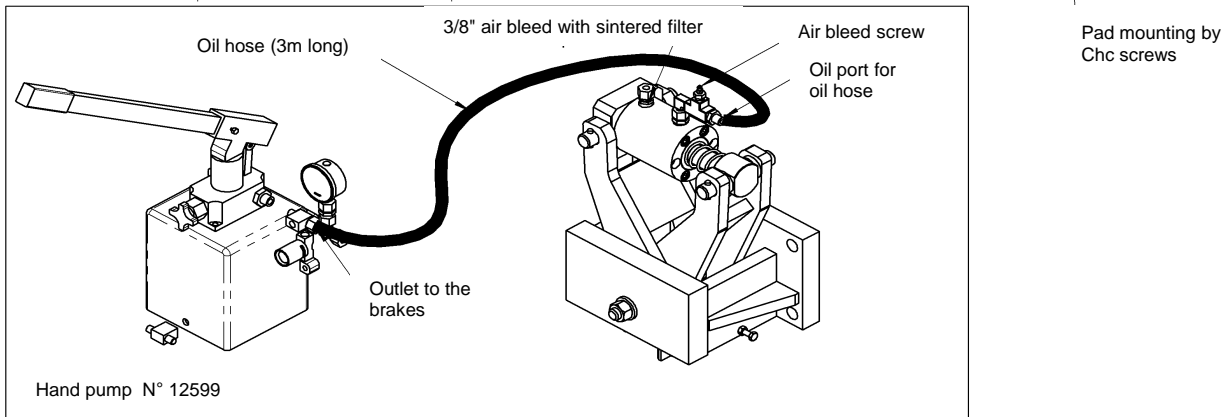


**DIRECT ACTION RAIL CLAMP**

Hydraulically applied with manual pump - Spring return



Data open to improvement



Hand pump N° 12599

**Technical features:**

Braking force	kN	<b>20</b>
Clearance between pads and rail (nominal)	mm	8
Closing pressure	bar	140
Volume for closing	cm <sup>3</sup>	37
Manual pumping total number		3
Effortless manual pumping number		2
Rail thickness	mm	75
Weight	kg	90

**Working conditions:**

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

**Options:**

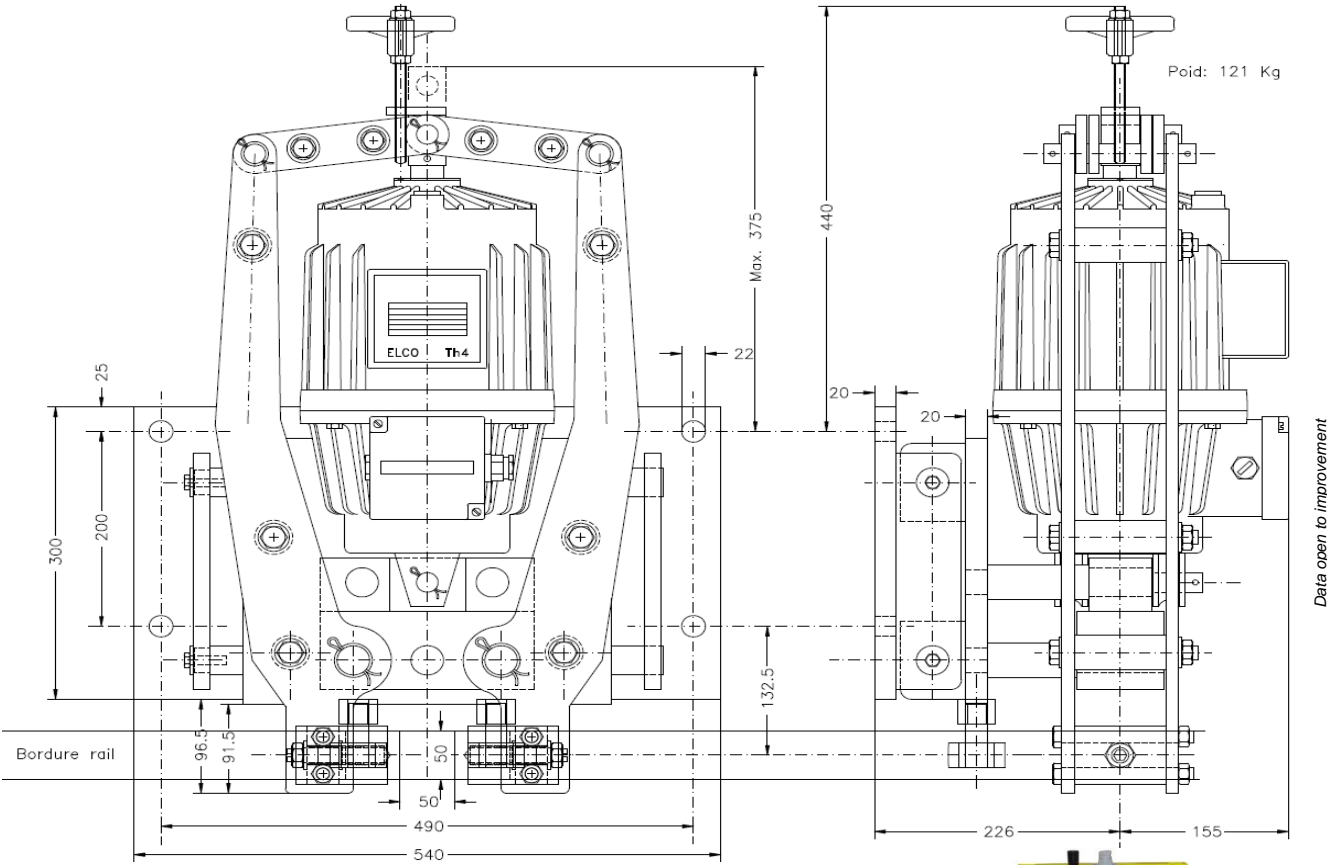
- Fixation set (4xM20 screws, nuts and washers)
- Protective cover
- Seawater execution

Fastening: 4x M20 screws class 8.8 (not supplied)  
 Cs: 370 Nm ±10% μ 0,15

Instruction handbook no. 217  
 Calculation notes or 3D models available on



**SAFETY RAIL CLAMP**  
 Spring applied - Thruster release



**Technical features:**

Braking force	kN	26,5	26,5
Rail contact height	mm	50	35
Rail width	mm	50	75
Lateral clearance	mm	±40	±40
Weight	kg	121	121

**Electric data:**

Supply voltage (3 phases - 50 Hz)	Vca	230 / 400
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Fastening: 4x M20 screws class 8.8 (not included)  
 Cs: 370 Nm ±10% μ 0,15

**Working conditions:**

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

**Monitoring switch:**

250V 6A AC ; 400V 4A AC ; 250V 0,4 A DC  
 PG11 cable gland  
 IP67 protection

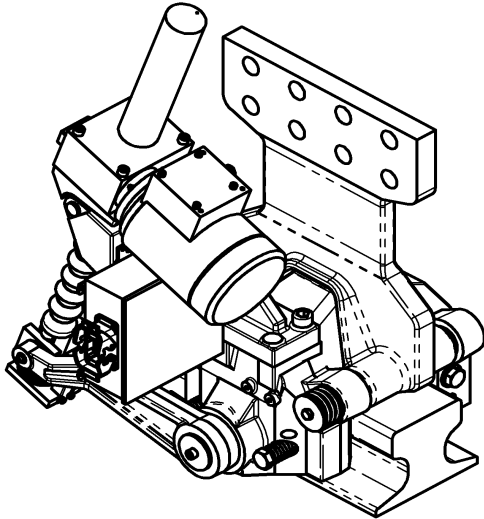
**Options:**

- Fixation set (4 M20 screws, nuts and washers)
- Protective cover
- Seawater execution

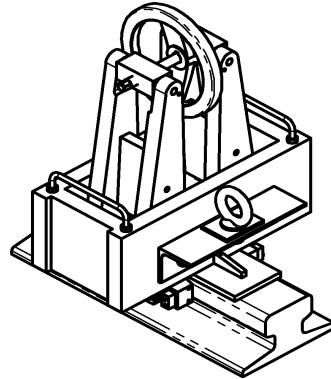
Instruction handbook no. 263  
 Calculation notes or 3D models available on request



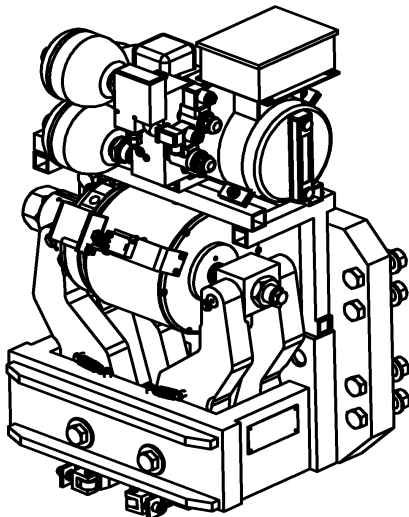
**OUR KNOW-HOW IN SPECIAL DESIGNS**



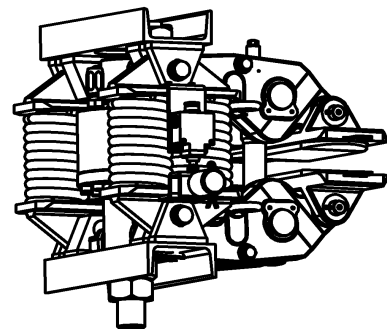
EM420  
ELECTRO-MECHANICAL ACTUATION  
330 KN - A150 RAIL  
*Bistable actuation*



PORTABLE RAIL CLAMP  
50 KN - A100 RAIL  
*Aluminium built for lower weight*



SH400K CI RAIL CLAMP  
400 KN - UIC60 RAIL  
*Specific flange*



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

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



## FAIL-SAFE RAIL BRAKE



*With vice jaw pads*

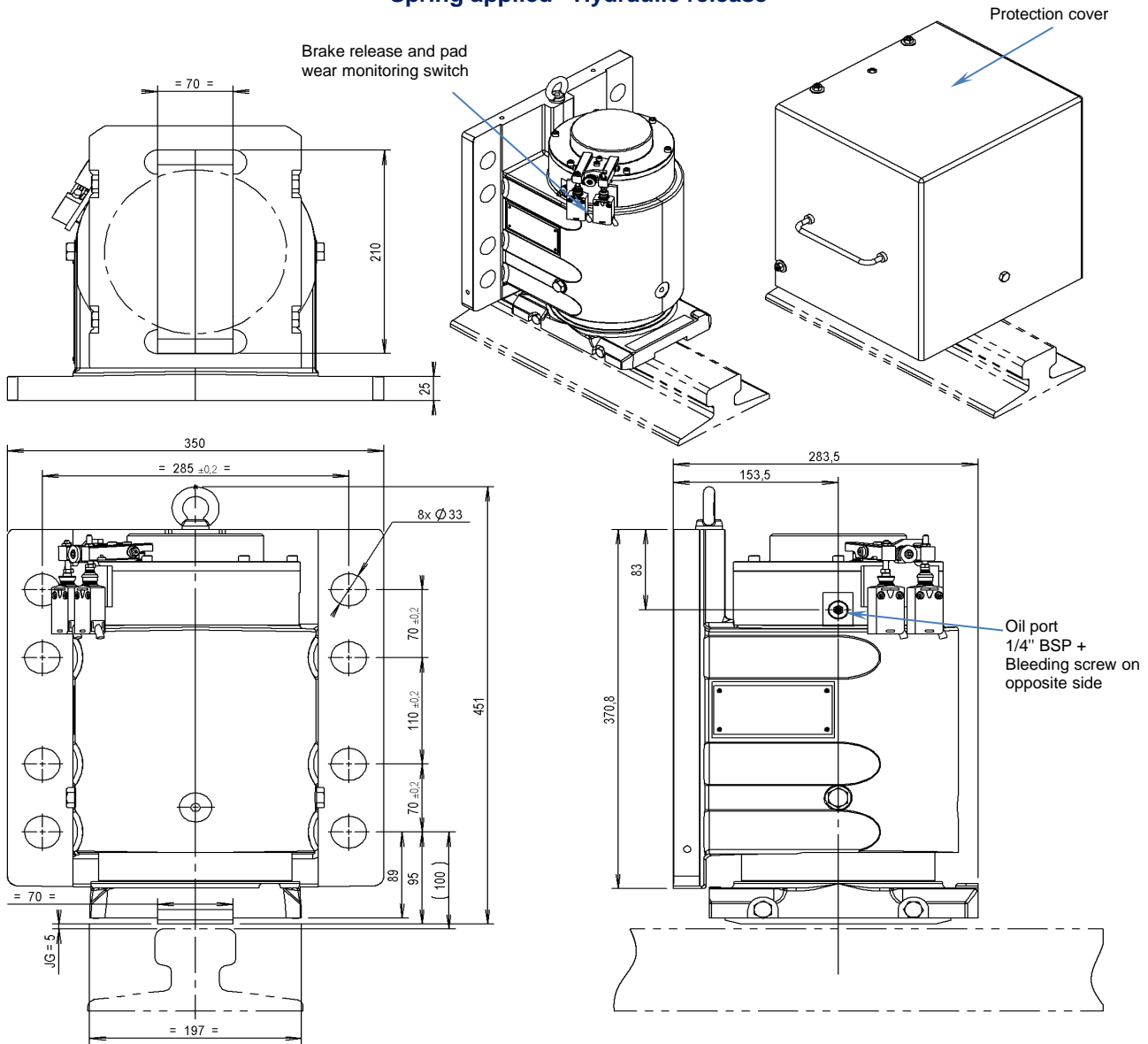
*Braking force  
from 110 to 225 kN*

*Static braking use only.*

*Every single emergency  
stop requires new pads*



**FAIL-SAFE RAIL BRAKE**  
 Spring applied - Hydraulic release



Data open to improvement

**Technical features:**

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

kN	<b>110</b>
kN	<b>200</b>
mm	5
bar	210
bar	230
cm <sup>3</sup>	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 0.75mm<sup>2</sup>, 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
- ATEX certifications

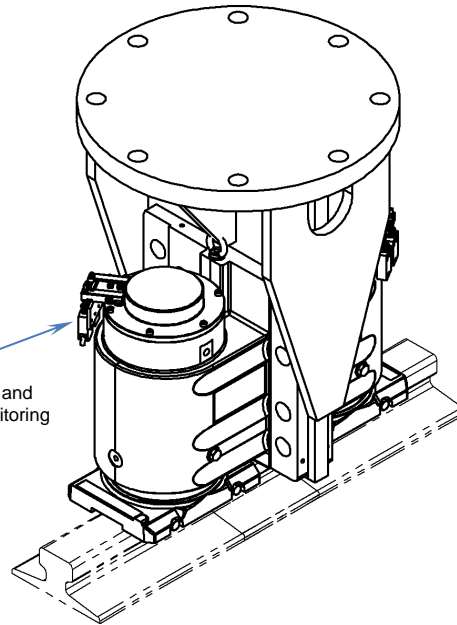
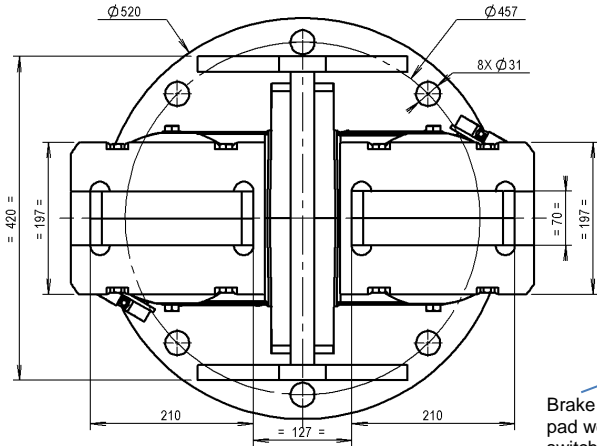
1 off handling ring included

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

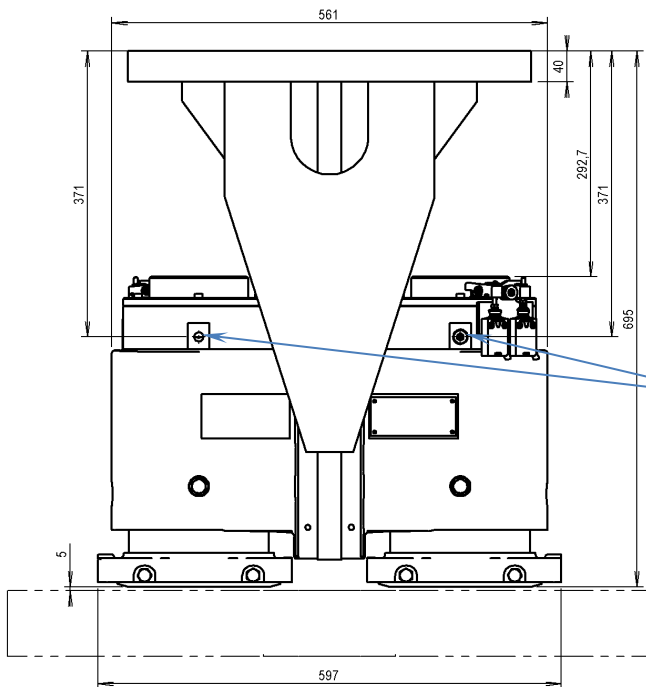
Instruction handbook nr 258  
 Calculation notes or 3D models available on request



**FAIL-SAFE RAIL BRAKE**  
 Spring applied - Hydraulic release



Brake release and pad wear monitoring switch



Oil port  
 1/4" BSP +  
 Bleeding screw on  
 opposite side

Data open to improvement

**Technical features:**

Braking force (vice jaw pads)	kN	<b>225</b>
Applied force on rail	kN	<b>409</b>
Total gap between pads and rail (nominal)	mm	5
Release pressure	bar	210
Maximal pressure	bar	230
Useful volume (with 5mm gap)	cm <sup>3</sup>	2x 90
Weight	kg	410

**Working conditions:**

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

**Monitoring switches:**

240V 1,5A AC ; 250V 0,1A DC  
 Wire 5 x 0.75mm<sup>2</sup>, 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
- ATEX certifications

1 off lifting 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



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## Passenger boarding bridges equipped with atv storm brakes at the Calais harbour

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The Port of Calais equipped its six foot passenger gangways to protect against storm risks. It has chosen ATV rail support technology. This technology presents the advantages of a small size combined with action possible on a rail sunk into the ground. Action on top of the rail does not require its sides to be clear.

Each gangway is equipped with 4 rail supports for a total braking effort of 440 kN, guaranteeing support in winds of over 180 kph. The rail supports have specific marine protection and stainless steel casing. This technology therefore guarantees long-term maintenance for the safety function. atv has significant expertise in safety braking for port environments. atv also provides its rail clamp solutions for many sectors of industry, hydraulic structures and rail equipment.

**2014 01**

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## atv is continuously striving to broaden its rail-clamps offer for its clients

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atv has continued to enhance its rail clamp expertise over the last 3 years.

ATV has been providing its customers with an expansive technical range for the last 17 years and has earned the trust of several companies over the last 18 months in particular (such as NFM, MC Levage and Arsenal de Cherbourg) and is constantly striving to improve its production standards and extend its product range.

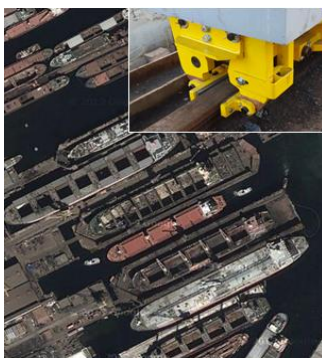
The range covers an extended scope of functions from safe maintenance on rails (for cranes, mobile hangars and wagons) to sensitive product transport and handling applications (military, chemical or nuclear environments). atv's solutions also provide a response to increasing functional and standard requirements in port and heavy industry environments.

**2012 04**

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## atv brakes takes a position up on the Turkish market

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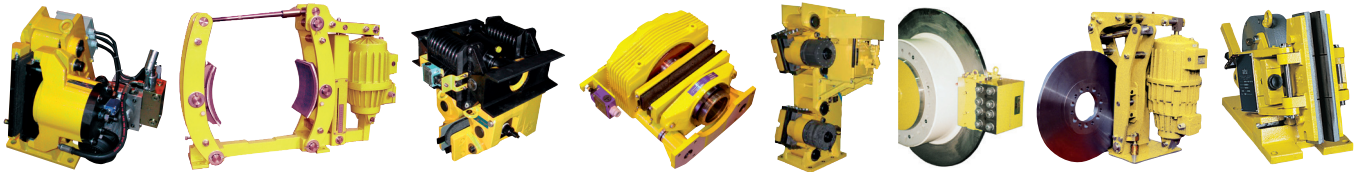
Just a few short months after signing a representation contract in Turkey with **ELEKTROS** in Istanbul, atv has already won its first contract from **GEMAK** Shipyards.

The Tuzla shipyard in the south of Istanbul is the leader in the highly dynamic Turkish shipbuilding and repair market.

GEMAK's teams have chosen the ST3SHCI rail clamp because of its compact size and its wide side clearance, which make it particularly well-suited to integration into old equipment.

This will secure the cranes in one of the largest floating docks in the country during storms.

**2014 02**



### Abstract of references

#### CRANES - HOISTING DEVICES

**FRANCE** EIFFAGE CONSTRUCTION METALLIQUE - REEL - ADC - NFM - KONECRANES - SOMDEL - SEVAL - COMETE - JOSEPH PARIS - CEGELEC - CMI - MC LEVAGE - MANITOWOC CRANE CARE

**GERMANY** KRANBAU KÖTHEN - STALVOSS - NOELL - KRAFOTEC - BRUNNHUBER - DEMAG CRANES - UTRANS

**ITALY** ANSALDO - DEMAG - ITALIMPIANTI - TECHINT - BONFANTI SIDER PIOMBINO - ALMICI - MELONI - TENOVA - ITALGRU

**AUSTRIA** ING. VOITH TRAUN

**ASIA** DHHI GROUP

#### WIND & WATER TURBINES

**FRANCE** ALSTOM OCEAN ENERGY - SABELLA

**NEDERLAND** TOCARDO

**GERMANY** ENERCON

#### PORT CRANES

**FRANCE** PHB - SOMDEL - POTAIN  
HARBOURS : NANTES - ST NAZAIRE - LORIENT - BREST - MARSEILLE - SETE - LE HAVRE - LA ROCHELLE - DIEPPE - CHERBOURG - LILLE - STRASBOURG - TOULON - BORDEAUX - CAEN - FOS SUR MER

**GERMANY** HAMBURG - BREMEN - MAINZ

**MAROCCO** CASABLANCA

**ALGERIA** ALGER - SKIKDA - ANNABA

**TURKEY** ISTAMBUL

#### SPECIAL MACHINES

**FRANCE** POURTIER - FIVES STEIN - SIDEL - FIVES CAIL BABCOCK - CEGELEC - SIEMENS VAI - SETIC - MILTEC - BAUDIN CHATEAUNEUF - SAPELEM - BROCHOT - MARCEAU AMALRIC - CNRS - GED - ADREM - AREVA VINCI

**GERMANY** AUGUST MÖSSNER

**GREECE** GEFYRA - TENOVA

**ITALY** TENOVA

#### RAIL / ROAD INDUSTRY

**FRANCE** RATP - SNCF - POMA OTIS - AREVA - EUROVIA - COLAS RAIL - RAZEL BEC

#### STEELWORKS

**FRANCE** ARCELOR MITTAL - CONSTELLUM - AUBERT ET DUVAL - ASCOMETAL - UGITECH - SALZGITTER MANNESMANN PRECISION - NEXANS - CREUSOT FORGES - INDUSTRIEL - FERROPEM

**ITALY** DALMINE - ILVA - AST - ARCELORMITTAL PIOMBINO - DANIELI - RIVA - ITALSIDER

**GERMANY** ARCELORMITTAL BREMEN - SAARSTAHL - ARCELORMITTAL HAMBURG - SALZGITTER FLACHSTAHL BES RIVA STAHL

**SWEDEN** AVESTA - SSAB - SANDVIKEN

**NEDERLAND** TATASTEEL IJMUIDEN

**BELGIUM** ARCELORMITTAL - INDUSTRIEL - UGINE ALZ

**LUXEMBURG** ARCELORMITTAL

**ALGERIA** ARCELORMITTAL ALGERIE

**SPAIN** ARCELORMITTAL SAGUNTO

**IRAN** MOBARAKEH STEEL

#### MISCELLANEOUS

**FRANCE** RENAULT - PSA - MICHELIN - FCB - AREVA - ARCELOR - PLACOPLATRE - DMS - CALCIA - COFELY ENDEL - CREUZET AERONAUTIQUE - SOMAB - GOODYEAR DUNLOP

#### CONVEYORS

**FRANCE** KOCH - SOMDEL - RBL REI - CLAUDIUS PETER

**GERMANY** FAM - VOITH TURBO

**AUSTRALIA** YALLOURN - COMALCO - BARCLAY MOWLEM - BHP

#### ENERGY

**FRANCE** EDF - GDF - CNR - COFELY - INCINERATION FACTORY - CNIM - IPXIII - ANDRA - NOVERGIE

**CHINA** DAYA BAY - SHANXIA WATER CONSERVANCY - HAI YANG NPP

#### MARINE - OFF SHORE

**FRANCE** NFM - COMEX - FLEXI-FRANCE - KLEY FRANCE - REEL IMECA

**ITALY** SAIPEM - REMACUT - REMA ENGINEERING - FINCANTIERI

**NEDERLAND** ERS - HUISMAN

**GERMANY** BLOHM & VOSS - LÜRSEN WERFT

#### PAPER INDUSTRY

**FRANCE** ALLIMAND - PROCOAT - SMURFIT SOCAR - PAPETERIE PONT DE CLAIX - AUSSÉDAT REY

#### ROPEWAYS

**FRANCE** POMAGALSKI - GIMAR MONTAZ MAUTINO - SEIREL - LST ROPEWAY

**ITALY** LEITNER - GRAFFER - GARAVENTA

#### DEFENCE INDUSTRY

**FRANCE** DGA - DCNS - NEXTER SYSTEMS - THOMSON CSF - MARINE NATIONALE - ARMEE DE L'AIR - ESID



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