

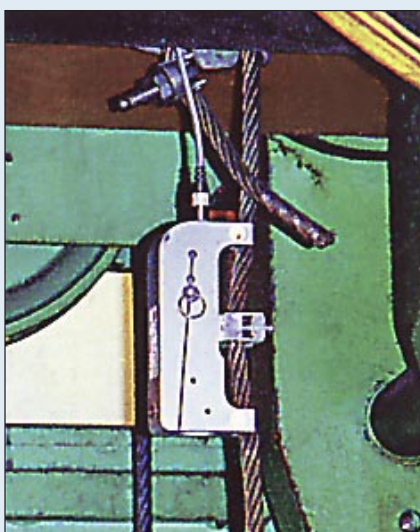
dynasafe[®]

**UNIVERSAL load limiter
HF 32 series**

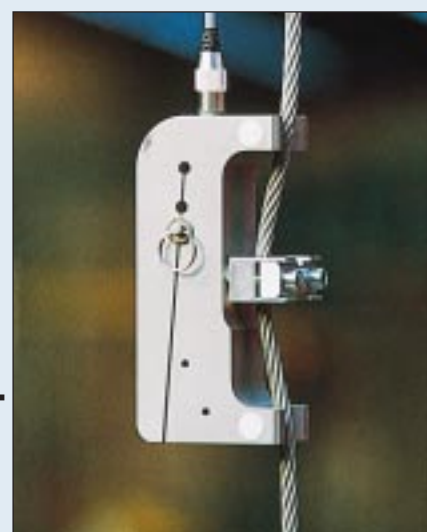


- adapted for use on all wire ropes from 5 to 26 mm
- capacities from 250 to 6000 kg

- trip point power: 220 Vac/4 A
- manufactured in accordance with CE standards



**SIMPLE
FITTING
AND
ADJUSTMENT**



dynasafe

"UNIVERSAL" load limiter HF 32 series

The new DYNASAFE load limiter, the model UNIVERSAL, is a mechanical device that has been designed particularly for fitting to existing overhead cranes and hoists with a dead end wire rope and connecting directly into the UP function of the lifting system.

It is a simple device with a switch to allow for certain dynamic effects, and which, when correctly adjusted, will prevent an overload condition of the lifting system.

Application:

This mechanical load cell has been designed to provide a trip point for lifting systems which have a dead end wire rope. The trip point provides a signal that the user may employ depending on his requirements, e.g.:

- for load limiting in lifting systems
- to limit the speed as a function of the load on traversing
- to limit the effort applied for pulling.

This **UNIVERSAL load cell** is recommended for its simplicity and quick-fitting capability.

Operating principle:

The load cell operates by the movement of metal within its elastic limits. This movement acts on an adjustable switch giving an "all-or-nothing" signal. The position of the adjustable pin sets the capacity range. The central "UNIVERSAL" fixing bracket is adapted to suit wire ropes from 5 mm to 16 mm (model HF 32/1) and from 17 to 26 mm (model HF 32/2).

Full details may be found in the installation manual.

The effort applied through the wire rope "deforms" the body of the load cell, and depending on the position of the adjustable pin to set the capacity range, gives a difference in the relative positions of the two sections operating a microswitch which may be wired directly into the UP function of the lifting system to prevent an overload condition.

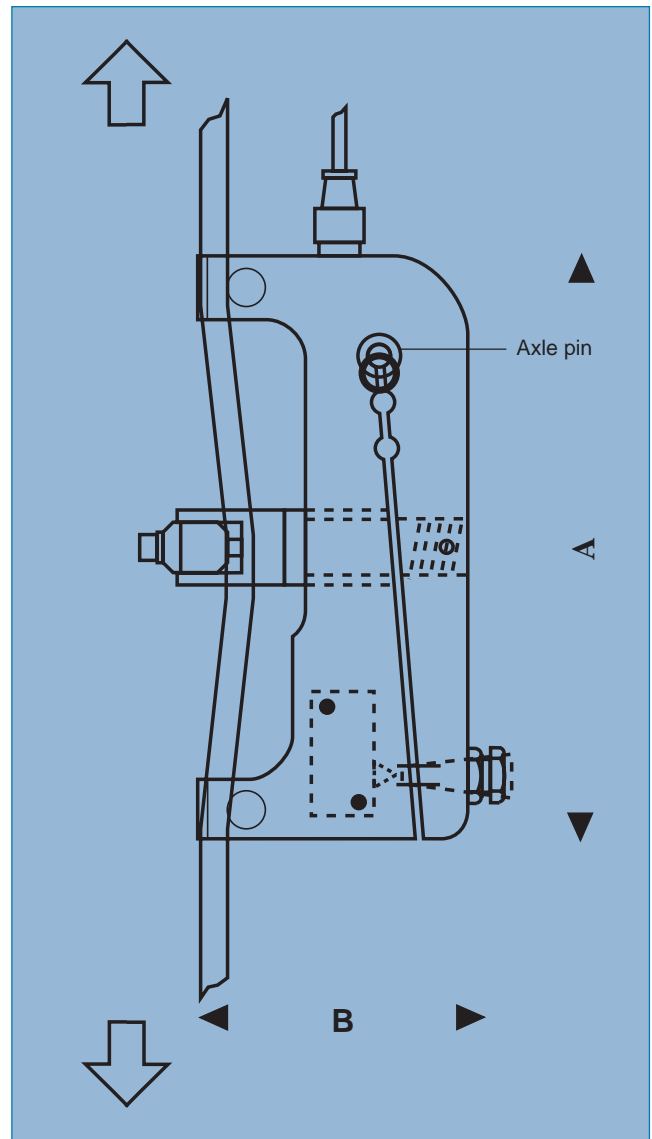


Fig.1 - HF 32 "universal" load cell -
Operating principle

Technical specification:

max. capacity HF 32/1/A: 3000 daN on a single fall
 HF 32/2/A: 6000 daN on a single fall
 HF 32/3/A: 12000 daN on a single fall

Adjustment: by screw
 Measuring cell: Switch
 Trip point power: 4A/220 Vac
 0,5A/220 Vdc

Repeatability of cut out: +/- 5%
 Temperature range: From -30°C to +80°C

Connections: By plug
 (3m lead supplied)

Material: Anodised, aeronautical
 grade aluminium

Protection class: IP55

Modèle	Code	Dia. of w. rope mm daN	Max. capacity mm	A mm	B mm	Thick-ness
HF 32/1/A	0420600	5 to 16	250 à 3000	150	70	40
HF 32/2/A	0420601	17 to 26	300 à 6000	200	98	50
HF 32/3/A	0420602	27 to 36	1000 à 12000	280	138	60

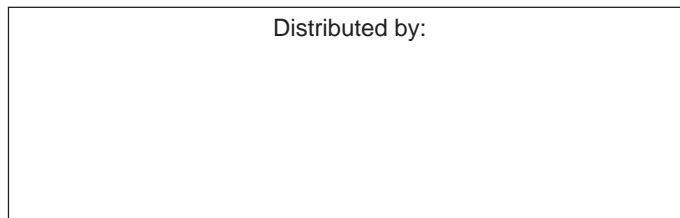
There is a version B, HF 32.

HF 32/1/A also available in version B. The technical specification of version A and B are similar except the microswitch which is more sensitive with a 1 µ Hysteresis and whose breaking capacity is 25 mA for version B

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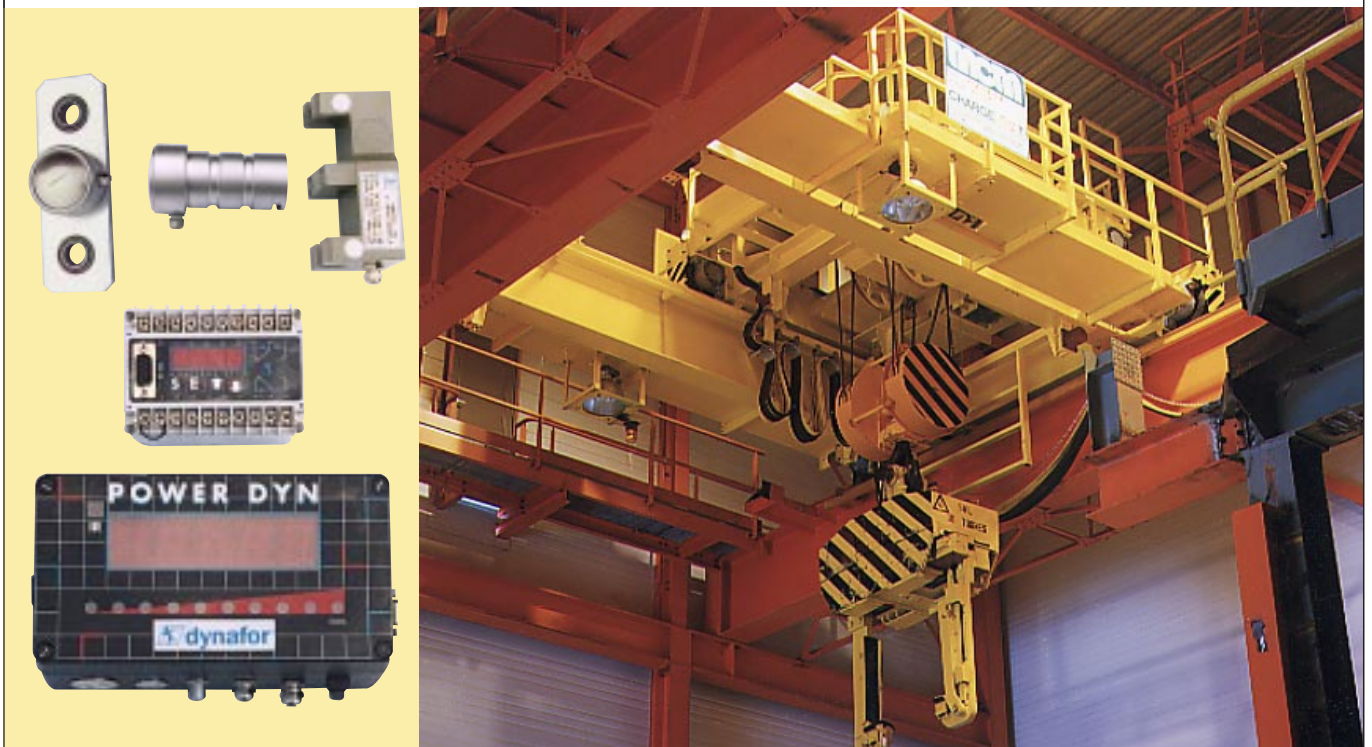
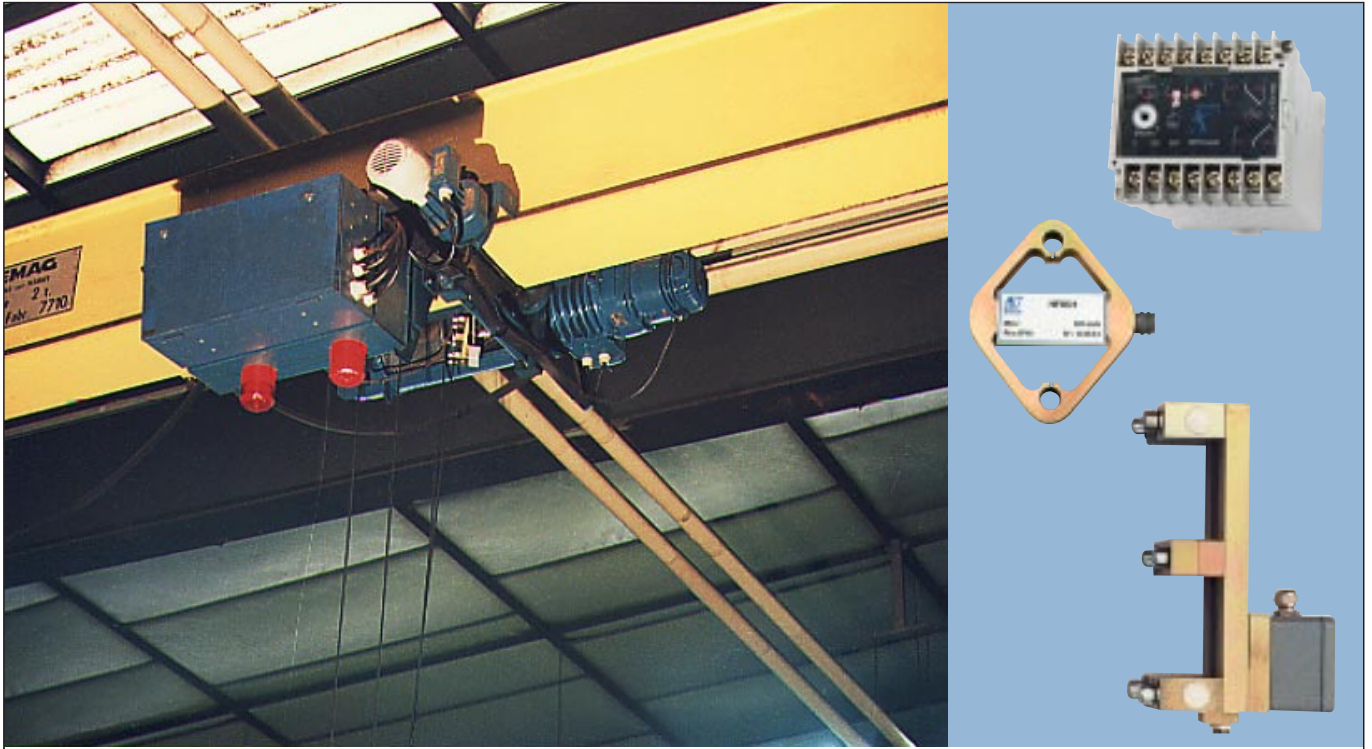


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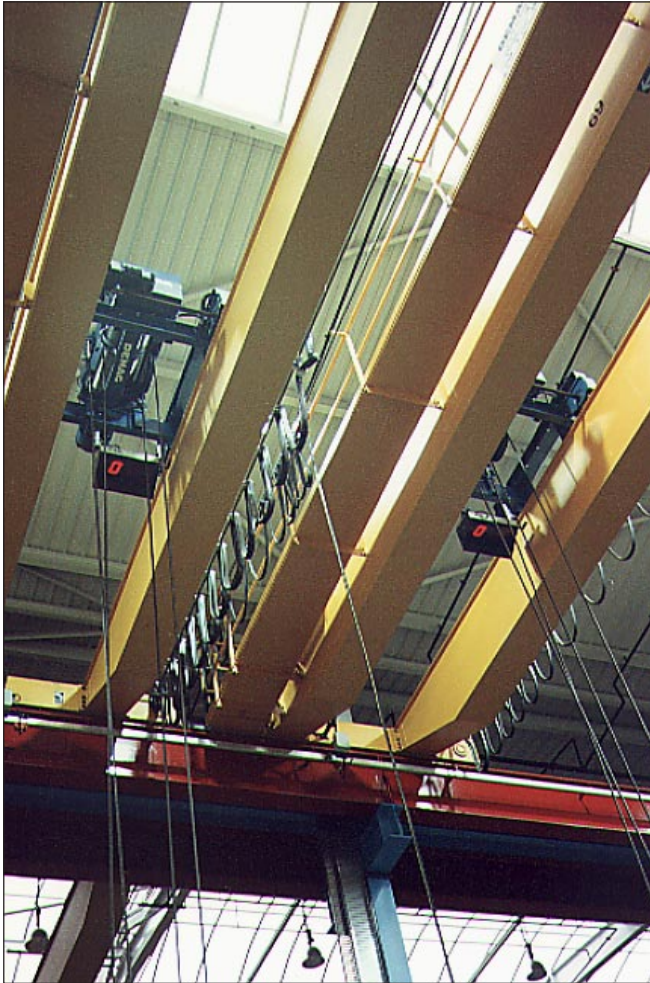
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dynasafe®

load limiting and intelligent monitoring
of lifting systems



the DYNASAFE range



mechanical and electronic load cells for:

- on-line and
- in-line

load limiting and monitoring

The wide variety of wire rope lifting systems requires an equivalent range of overload limiters.

The applications are extremely varied, from simply stopping the system where the load exceeds the maximum capacity (directive CEE 89/392) to a "black box" system which memorises all the parameters of the load, overloads and operating coefficients in accordance with the standards (9.511 and 9.755) set out by the F.E.M. (Fédération Européenne de Manutention).

Two types are available:

Mechanical load cells

based on the use of microswitches giving an "all-or-nothing" signal to detect the movement within the elastic limits of the specially treated steel, under the effect of an increasing load.

Amongst these load cells there are:

- Load cells fitted onto the wire rope** avoiding the need to dismantle the lifting system. The deviation of the wire rope around the load cell produces a force proportional to the force transmitted through the wire rope.
- Load cells attached to a fixed point** between the end of the wire rope and its original anchor point. In this case, the load cell is subjected to the effort at the dead-end of the wire rope.

Electronic load cells

fitted with strain gauges which measure the movement of the load cell giving an electrical signal relative to the load applied.

There are a number of choices:

- Load cells fitted onto the wire rope** avoiding the need to dismantle the lifting system. The deviation of the wire rope around the load cell produces a force proportional to the force transmitted through the wire rope.
- Load cells attached to a fixed point** between the end of the wire rope and its original anchor point.
- Dynamometric load axles** which are specially manufactured to replace original axles.
- Special load cells**, such as S-shaped load cells, compression washers, extensimeters or custom-made load cells on request.

The load cells described above, with the appropriate monitor or display, are a complete system for indirect-acting lifting force limiters.

from simply complying with the regulations to equipment for the complete management of overhead cranes

mechanical load cells

on-line

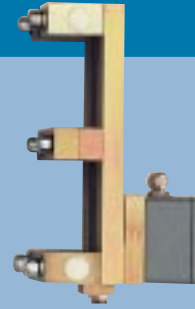


Advantages

- fitting is straightforward, directly onto the dead end of the wire rope
- adjustment is simple
- IP40 protection*
- repeatability: $\pm 2\%$

Comments

- the lost height increases by up to the length of the load cell
- capacities 1 to 12 tonnes
- suitable for wire rope diameters 5 to 36 mm



HF30 mechanical load cell for mounting on the wire rope

for details, see technical data sheet T-2006

in-line

- adjustment is simple
- the lost height only increases slightly
- IP40 protection*
- repeatability: $\pm 0.5\%$

*IP65 on option

- fitting is less straightforward (anchor point of the wire rope requires dismantling)
- capacities from 500 kg to 12 tonnes

HF05 mechanical load cell for mounting at a fixed point



for details, see technical data sheet T-2004

electronic load cells

on-line



Advantages

- fitting is straightforward
- output is a frequency signal, so not sensitive to interference (10.000 points)
- possibility of multiple trip points
- IP65 protection
- accuracy: $\pm 0.5\%$

Comments

- the lost height increases by up to the length of the cell
- capacities from 2 tonnes to 12 tonnes
- suitable for wire rope diameters from 5 to 36 mm depending of capacity



HF35 electronic load cell mounted on the wire rope

for details, see technical data sheet T-2013

in-line

- the lost height only increases slightly
- output is a frequency signal
- possibility of multiple trip points
- IP65 protection
- accuracy: $\pm 0.3\%$

- fitting is less straightforward (anchor point of the wire rope requires dismantling)
- capacities from 1600 kg to 12 tonnes

HF10 electronic load cell for mounting at a fixed point



for details, see technical data sheet T-2022

axles

- the lost height is unchanged
- output is a frequency signal
- multiple trip points
- IP65 protection
- accuracy: $\pm 0.5\%$

- mostly custom-made equipment to suit existing lifting systems

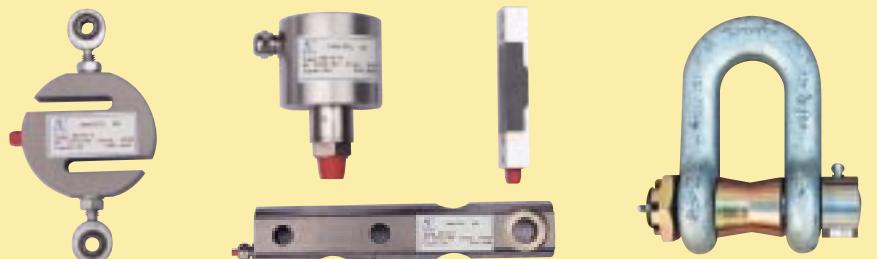
HF50 dynamometric axle for replacing original axle or shackle pin



for details, see technical data sheet T-2021

special

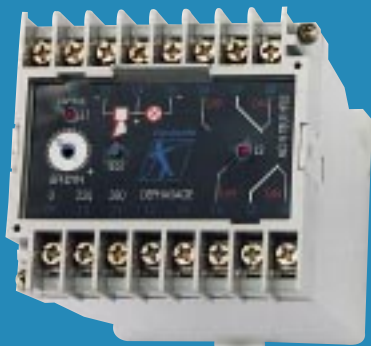
Depending on the specific requirements, other types of load cell may be supplied: hydraulic load cells, S-shaped load cells, compression load cells, extensometers, . . .



from simply complying with the regulations to equipment for the complete management of overhead cranes

associated equipment

HF85/1 monitor for mechanical load cells



for details see technical data sheet T-2012

😊 main features

- connects to DIN rail
- 2 relays (both NO and NC)**
- switching power: up to 380 Vac, 10 A
- power supply: 220 and 380 Vac, single phase

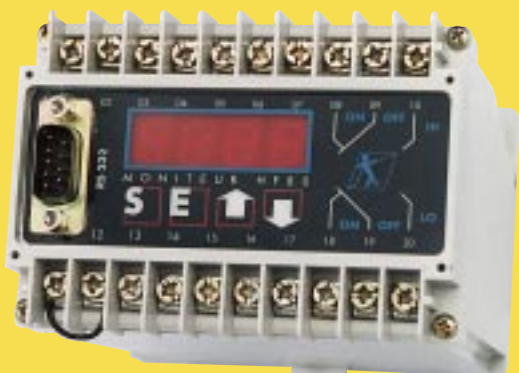
** NO: normally open
NC: normally closed

😊! exclusively DYNASAFE

- adjustment for dynamic effects
- test button to simulate overload
- pilot lights for dynamic effect and overload
- low voltage output for visual and audible alarms

associated equipment

HF80 monitors for electronic load cells



for details, see technical data sheet T-2023

😊 main features

- connects to DIN rail
- 2 relays (both NO and NC)**
- switching power: up to 380 Vac, 10 A
- power supply: 220 and 380 Vac, single phase
- front display for messages

😊! exclusively DYNASAFE

Standard models HF80/1 and 87/1

- microprocessor control
- calculated dynamic effect control
- adjustable trip points
- adjustment protection by security codes
- programming by soft touch push buttons on the front
- low voltage output for visual and audible alarms
- last overload held in memory: date, time and overload value, via console
- system bypass held in memory, via console
- output for programming console, display and recording parameters

Advanced models HF80/2 and 87/2

same features as the standard models

- + last 50 overload conditions held in memory: date, time and overload value
- set the working group according to the F.E.M. standards (9.511 and 9.755).

HF87 scoreboard display and monitors for electronic load cells



for details, see technical data sheet T-2024

same features as model HF80

- + display of load with 5 digit LED
- height of digits: 32 mm or 63 mm or 125 mm



Programme and interface console:

between monitor or display and PC (with software)

the DYNASAFE solutions



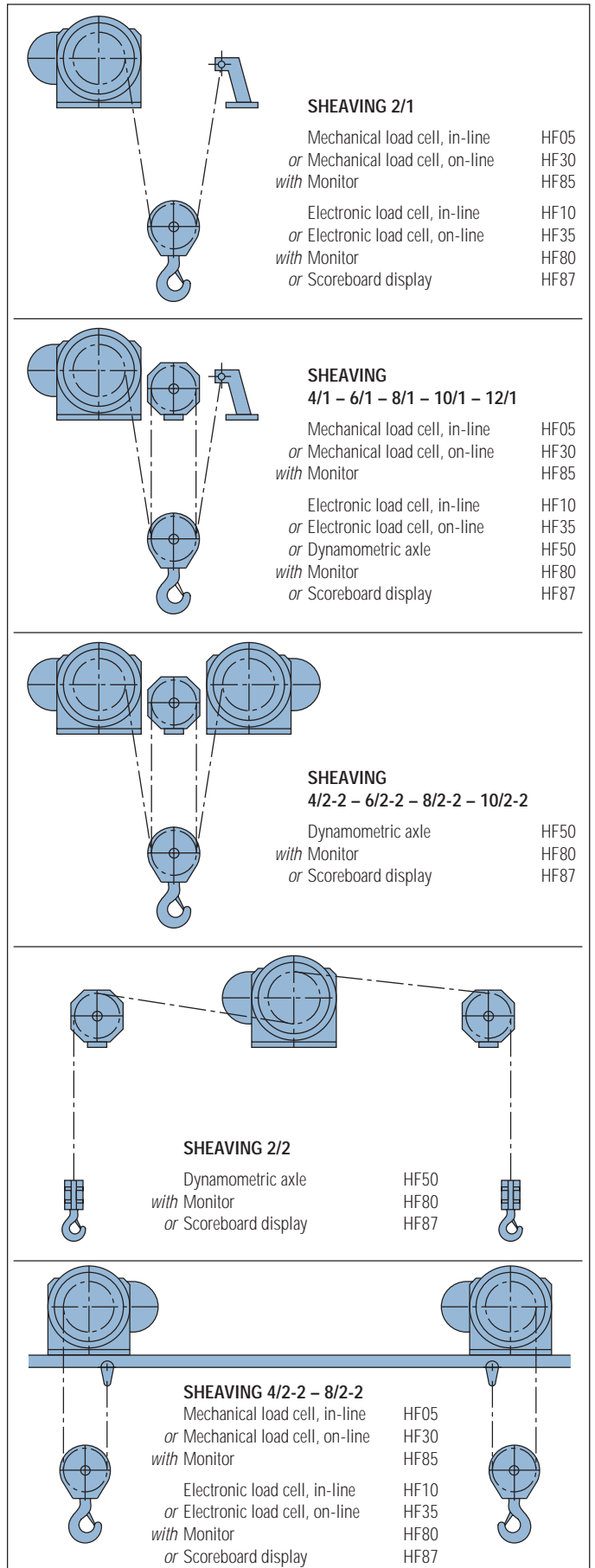
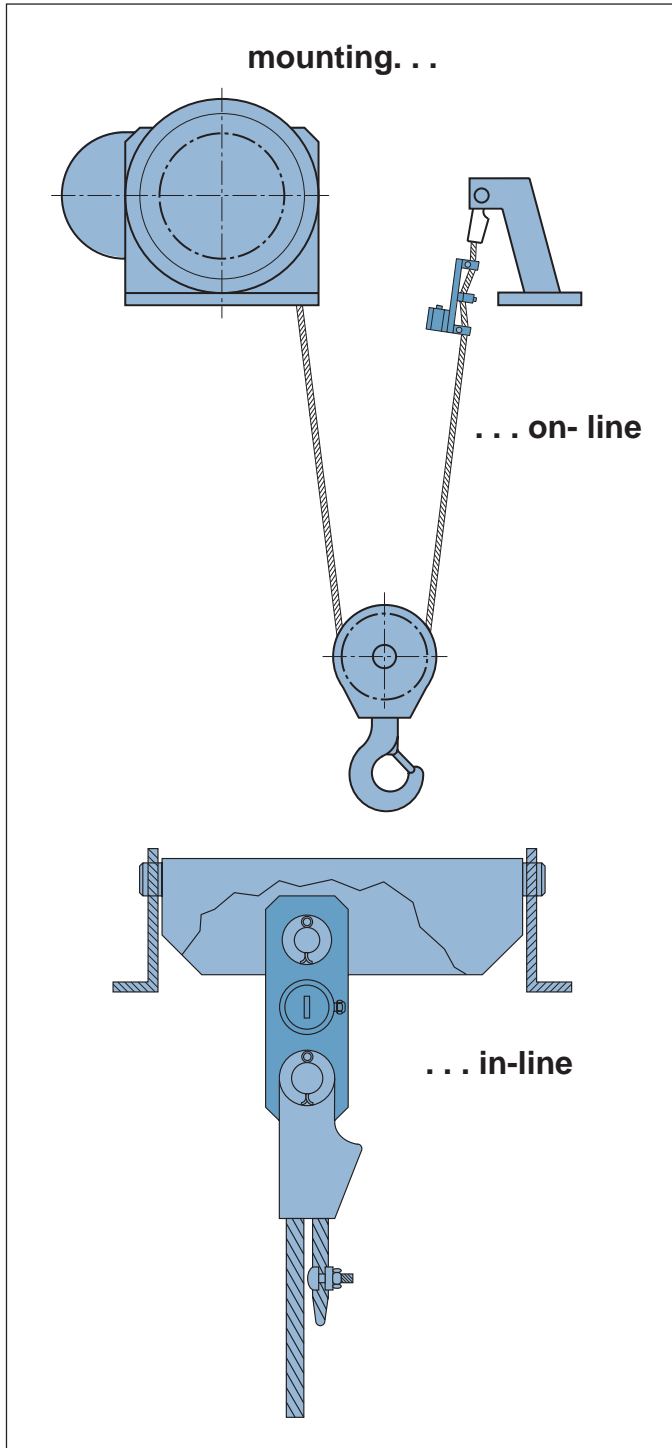
mechanical			electronic											
load cells		moni-tors	load cells			monitors		scoreboard displays						
HF30	HF05	HF85	HF35	HF10	HF50	HF80/1	HF80/2	/1/1	/1/2	/1/3	/2/1	/2/2	/2/3	

your requirements	trip points																		
			mounting																
			controls																
	1 trip point		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	2 trip points		O	O	O	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	more than two trip points					X	X	X	O	O	O	O	O	O	O	O	O	O	O
	on-line		X			X													
	in-line			X			X												
	dynamometric axles							X											
	dynamic effects damper				X				X	X	X	X	X	X	X	X	X	X	X
"black box" features								X	X	X	X	X	X	X	X	X	X	X	
set F.E.M. class									X				X	X	X				
display 32 mm												X			X				
63 mm													X			X			
125 mm														X				X	

X = standard; O = optional

For other requirements not set out above, please contact us.

DYNASAFE solutions for typical sheaving systems of overhead cranes



P1151E-11/94-6000

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