HENFEL BRAKING systems

ELECTROMAGNETIC BRAKES

www.henfel.com.br

HENFEL

RINGFEDER
POWER TRANSMISSION

Our Vision

RINGFEDER POWER TRANSMISSION is the global market leader in niche markets in the power transmission industry, strongly preferred for its customised, need-based solutions that provide customers with outstanding and worry-free operation.

Our Mission

With all our energy we pursue the target to establish RINGFEDER POWER TRANSMISSION as the best solution on the market - wherever something is turning, moving or shaking.

Our Core

PERFORMANCE

Our Values

HONESTY
FAIRNESS
CITIZENSHIP

Our Slogan

Partner for Performance

HENFEL RINGFEDER

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INDEX

1 About Us 5

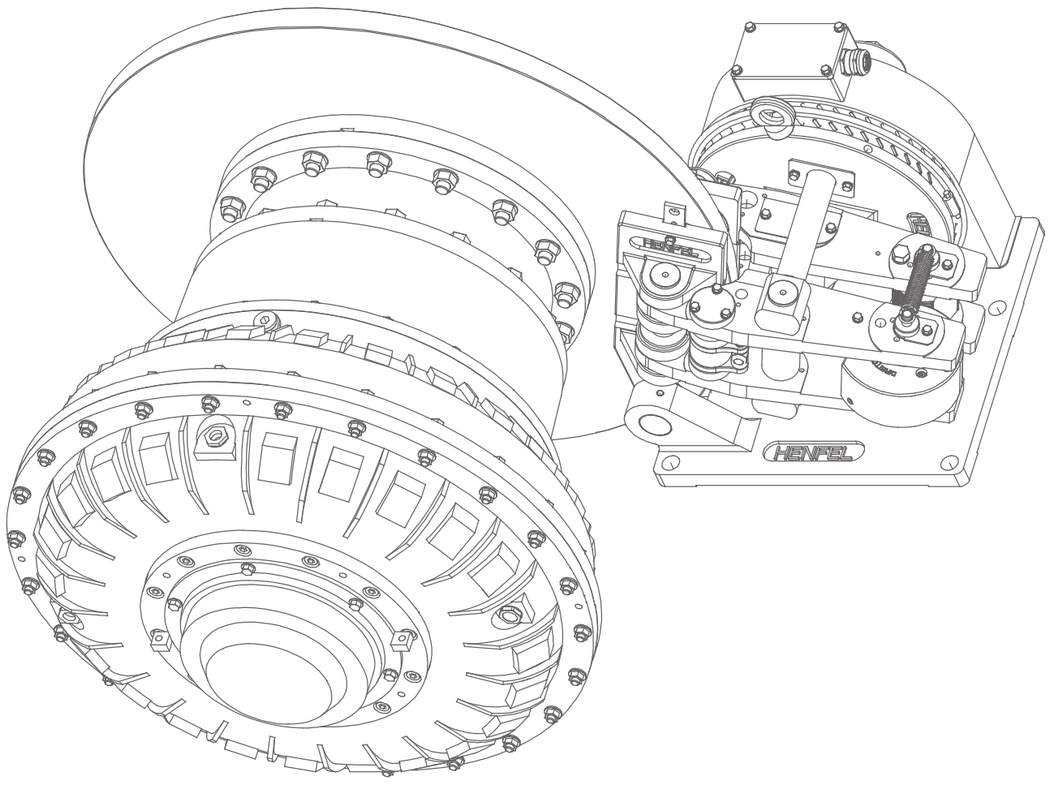
2 Braking Systems 7

3 Procedures For Brakes' Selection 9

4 Brakes' Selection Chart 12

5 Drive Shafts Checking 13

6 Dimensions and Electromechanical Properties 14



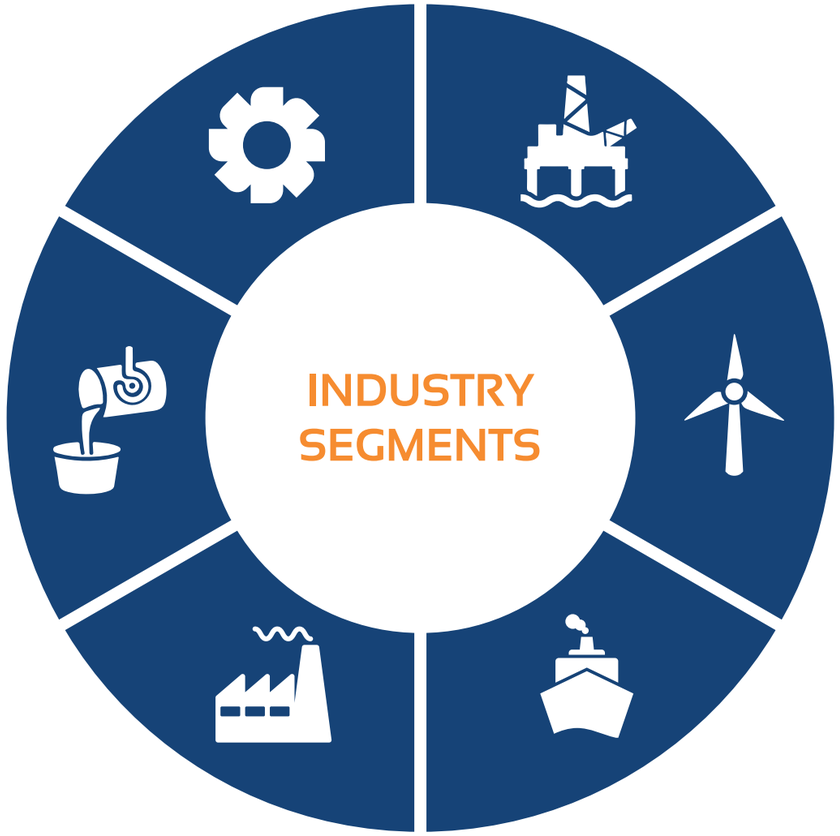
1

ABOUT US

Henfel develops and manufactures mechanical products for power transmission, such as flexible couplings, constant and variable speed hydrodynamic couplings, besides a complete line of bearing housings. The company serves the strictest industrial segments, such as mining, steel, cement, sugar and ethanol, pulp and paper, oil and gas, among others.

The company is a division of RINGFEDER Power Transmission division, which with its premium brands RINGFEDER and GERWAH, is one of the world leaders when it comes to locking assemblies, shrink discs, friction springs and industrial couplings and their applications.

The synergies that result of this alliance adds many competences to the group and it is an important step towards serving customers with a complete range of solutions for power transmission drive systems and braking systems.



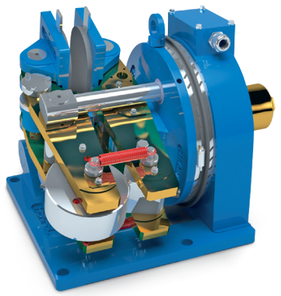
Henfel is specialized in the development of project, manufacturing, assembling and commissioning of industrial disc brakes for several segments of the industry.

Within this scope of operation, Henfel reconditions and manufactures special brakes such as: electromagnetic disc brakes, electrohydraulic disc brakes, pneumatic disc brakes, drum brakes, rail / wheel clamping brakes and all of their spare parts.

HENFEL'S BRAKING SYSTEMS 2

Electromagnetic Disc Brakes

Series E
Sizes 1 and 2
Size 4
Size 6 e 8
Size 10
Sizes 16 and 21



Series ES
Size 25
Size 50
Size 75

Power Supply
Series FA
Size 1 kVA_50/10V
Size 2 kVA_50/10V
Size 1 kVA_230/40V
Size 2 kVA_230/40V

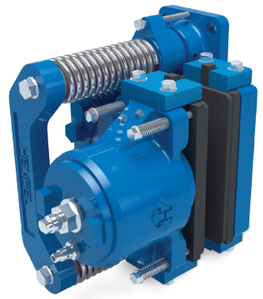
Electro-hydraulic Disc Brakes

Series EH
Sizes 1 and 2
Sizes 4, 6 and 8
Sizes 12, 16 and 21

Electro-hydraulic Actuators Series AEH
Series AEH
Size 23/5
Size 30/5
Size 50/6
Size 80/6
Size 130/6
Size 200/6
Size 300/6
Size 400/10

Hydraulic Disc Brakes

Series H
Sizes 1 and 2
Size 4
Size 8
Size 12
Sizes 16 and 21

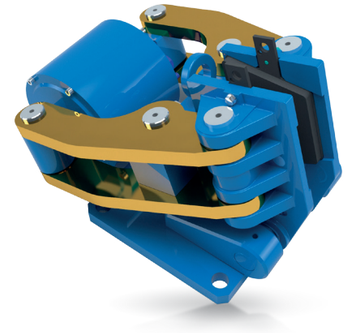


Series HS
Sizes 21 and 45
Sizes 80, 105 and 145

Hydraulic Control Units
Series UH
Size 2L/CH1 – Standard (On/Off)
Size 4L/CH2 – Flow Control
Size 15L/CH3 – Pressure Control

Pneumatic Disc Brakes

Series P
Sizes 1 and 2
Size 4
Size 8
Size 12
Sizes 16 and 21



Series PS
Sizes 2, 5 and 11
Size 25

Pneumatic Control Panels
Series PP
Size 20L/CP1 – Standard (On/Off)
Size 40L/CP2 – Flow Control
Size 40L/CP3 – Pressure Control

PROCEDURES FOR BRAKES' SELECTION

3

3.1 Practical Method

Calculate the Braking Torque (TF) required considering the Motor Torque (TM):

TF = k1 . TM [Nm]

Where

$$TM = \frac{P \cdot 736 \cdot 60}{2 \cdot \pi \cdot n} = [Nm]$$

Where: P = [cv]
n = [min^{-1}]

TF = k1 . TM [Nm]

Where:

$$TM = \frac{P \cdot 1000 \cdot 60}{2 \cdot \pi \cdot n} = [Nm]$$

Where: P = [kW]
n = [min^{-1}]

EXAMPLE

A 80-kW motor driving a 10-t load lifting machine at a rated revolution of 1750 rpm.
Where: π = 3,1416 and k1 = 1,75 (service factor of the application)

$$TM = \frac{80 \cdot 1000 \cdot 60}{2 \cdot \pi \cdot 1750} \longrightarrow \textbf{TM = 436,54 [Nm]}$$

TF = k1 . TM

TF = 1,75 . 436,54 ⟶ **TF = 763,94 [Nm]**

SELECTION

After checking the diameters of discs which are possible to be installed on the machine, refer to the chart below, and identify the torque just above the calculated one. In this example, the service brake FH-4E with Ø495 [mm] disc would be more appropriate, because it will provide the braking torque of 800 [Nm] and maximum revolution of operation of 1900 [min-1].

NOTE The disc selected should have sufficient capacity of absorption and dissipation of power generated by brake system. Henfel's Engineering Team can help you with this analysis whenever necessary. For the brakes listed below, the discs are already dimensioned according to international standards.

CHART 1 - Selection of Electromagnetic Brakes

	Brakes \ Discs	Diameters of brake discs [mm] x Braking torque [Nm]										
		260	315	355	395	445	495	550	625	705	795	995
Service	FH-1E	75	95	110	130	150	175	195	230	-	-	-
	FH-2E	150	190	220	260	300	350	390	460	-	-	-
	FH-4E	-	450	530	610	705	800	905	1050	-	-	-
	FH-6E	-	-	-	-	1000	1150	1300	1500	1800	2100	-
	FH-8E	-	-	-	-	1340	1540	1760	2060	2380	2740	-
	FH-10E	-	-	-	-	1750	2000	2300	2700	3140	3600	-
	FH-16E	-	-	-	-	-	-	3450	4000	4700	5400	7000
	FH-21E	-	-	-	-	-	-	4650	5500	6350	7350	9400
Emergency	FH-25ES	-	-	-	-	-	-	-	6450	7450	8600	11000
	FH-50ES	-	-	-	-	-	-	-	-	14900	17200	22000
	FH-75ES	-	-	-	-	-	-	-	-	-	25800	33000
	n máx. (1) [min^{-1}]	3600	3000	2700	2400	2100	1900	1800	1500	1300	1200	900

(1) maximum admissible speed [min^{-1}]
(*) Emergency Brakes only upon request, due to normative and safety requirements of NR-12, NR-18 and NR-22 standards.

CHART 2 - Similarity of the Electromagnetic Disc Brakes

	Size			
Standard S-472B	5	4	3	2
Maximum Braking Force	2 [kN]	7,5 [kN]	12,5 [kN]	18,7 [kN]
Henfel Designation	FH - 1E FH - 2E	FH - 6E FH - 8E	FH-10E	FH - 16E FH - 21E

B1) Calculate the power (E) generated per braking (Joules):

$$E = 0,5 \cdot TF \cdot \omega \cdot T \ [J]$$

Where: TF = Braking Torque [Nm]
ω = Angular speed of the disc [rad/s]
T = Braking time [s]

B2) Braking time (T): direct function of each project, as a reference for calculations of load lifting, we suggest the adoption of a time ranging from 1.0 to 1.2 [s].

B3) Calculate the average power (Em) generated per hour (Watts):

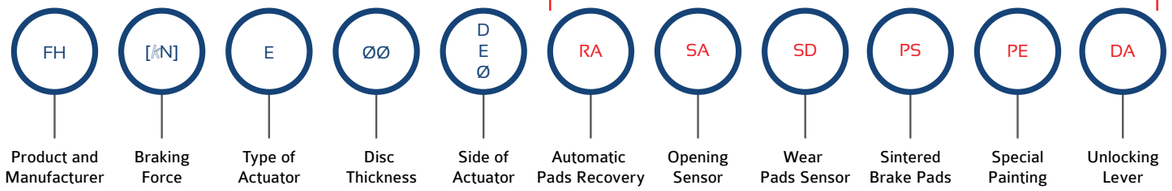
$$Em = \frac{E \cdot FH}{3600} = [W]$$

Where: E = Power generated per braking [J]
FH = Number of brakings per hour

NOTE The value of average power generated by brake when multiplied by wear rate of the brake pads provide a quick dimensioning of its service life, as well as it allows the calculation of the average temperature on the friction surface of the discs. Henfel's Engineering Team can help you in these calculations, where applicable.

3.2 How to order your brakes

ACCESSORIES



FH	10	E	30	Ø
Brake Henfel	10 [kN]	Electro-magnetic Actuator	Disc 30 [mm]	Central Actuator

WITHOUT STANDARD ACCESSORIES

FH	16	E	42	D	RA	SA
Brake Henfel	16 [kN]	Electro-magnetic Actuator	Disc 42 [mm]	Right Actuator	with Automatic Recovery	with Opening Sensor Detector

WITH SOME ACCESSORIES

FH	21	E	42	E	RA	SA	SD	PS
Brake Henfel	21 [kN]	Electro-magnetic Actuator	Disc 42 [mm]	Left Actuator	with Automatic Recovery	with Opening Sensor	with Wear Pads Sensor	with Sintered Brake Pads

WITH SOME ACCESSORIES

Note: all standard brakes are supplied with painted surface according to Henfel specification.

The correct selection of the brakes adds value for the whole supply chain, because besides speeding the manufacturing process, it avoids divergences in the supply scope, as well as variations of price. Thus, we recommend considerable attention to the specifications of the accessories above.

The chart below aims to provide the possibility of quick visualization of the different brakes available for each application.
The final check of the installation dimensions related to each selected model will always be required. For this purpose data sheets with all dimensions and technical properties of the brakes and their accessories can be found from page 15 to 26.

4 BRAKES' SELECTION CHART

FH-2IE - EF [kN]	Ø DISC [mm]	TF [Nm]	FH-16E - EF [kN]	Ø DISC [mm]	TF [Nm]
21	550	4650	16	550	3450
	625	5500		625	4000
	705	6350		705	4700
	795	7350		795	5400
	995	9400		995	7000

FH-10E - EF [kN]	Ø DISC [mm]	TF [Nm]	FH-8E - EF [kN]	Ø DISC [mm]	TF [Nm]
10	445	1750	8	445	1340
	495	2000		495	1540
	550	2300		550	1760
	625	2700		625	2060
	705	3140		705	2380
	795	3600		795	2740

FH-6E - EF [kN]	Ø DISC [mm]	TF [Nm]	FH-4E - EF [kN]	Ø DISC [mm]	TF [Nm]
6	445	1000	4	315	450
	495	1150		355	530
	550	1300		395	610
	625	1500		445	705
	705	1800		495	800
	795	2100		550	905
				625	1.050

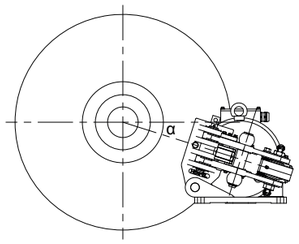
FH-2E - EF [kN]	Ø DISC [mm]	TF [Nm]	FH-1E - EF [kN]	Ø DISC [mm]	TF [Nm]
2	260	150	1	260	75
	315	190		315	95
	355	220		355	110
	395	260		395	130
	445	300		445	150
	495	350		495	175
	550	390		550	195
	625	460		625	230

Importance of checking the torsion and bending moments generated by braking torque at the drive shaft:

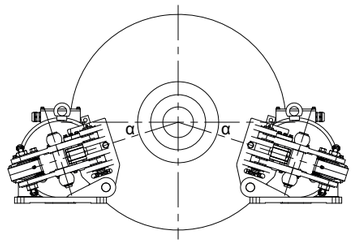
In case the shaft is not properly dimensioned, it could break during the operation and generate a serious accident.

5 DRIVE SHAFTS CHECKING

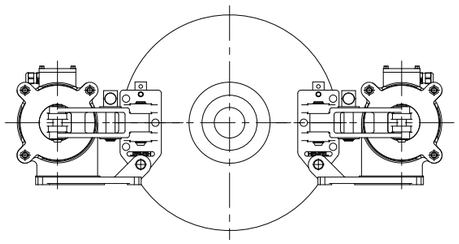
BRAKING TORQUE [Nm]		ASSEMBLY POSITION vs Ø SHAFT [mm]		
		I	II	III
5	25	12 to 23	11 to 21	6 to 12
25	50	19 to 23	17 to 22	11 to 15
50	100	23 to 30	22 to 27	15 to 19
100	250	30 to 39	27 to 36	19 to 26
250	500	36 to 46	34 to 43	26 to 33
500	750	41 to 47	38 to 44	32 to 37
750	1000	47 to 53	44 to 50	37 to 42
1000	1500	48 to 55	46 to 52	41 to 47
1500	2000	55 to 61	52 to 58	47 to 52
2000	3000	61 to 70	58 to 66	52 to 61
3000	4000	70 to 77	66 to 73	61 to 67
4000	5000	77 to 82	73 to 78	67 to 72
5000	7500	82 to 94	78 to 89	72 to 84
7500	10000	94 to 105	89 to 100	84 to 94



α = 17° to 20°



α = 17° to 20°



α = 0°

POSITION I | POSITION II | POSITION III

NOTE The values of the chart above were calculated based on drive shafts manufactured in carbon steel SAE 1045. For other steel alloys, please contact us.

6

DIMENSIONS AND ELECTROMECHANICAL PROPERTIES

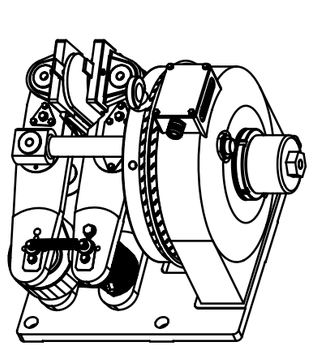
Electromagnetic Brakes

Accessories

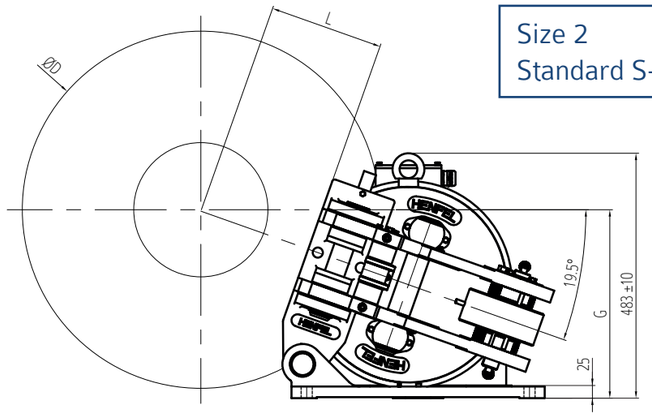
- Discs
- Power Supplies

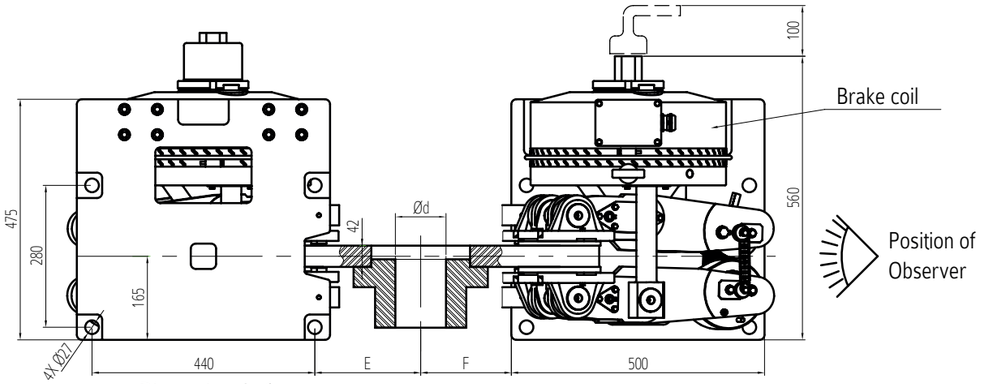
Electromagnetic Disc Brakes FH-16E / FH-21E

Size 2
Standard S-472B



Right Brake





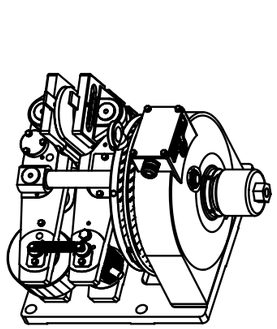
Dimensional of
Brake Base

TECHNICAL PROPERTIES			
Total Weight:	250 Kgf	Pads Wearing Recovery:	Self-adjustment
Braking:	Through springs	Thickness of the Disc:	42 mm
Release:	Electromagnetic	Response Time:	0,3 s
Torque Adjustment:	From +10% to -30 % (Rated)	Voltage of the coil:	230 / 40 VDC

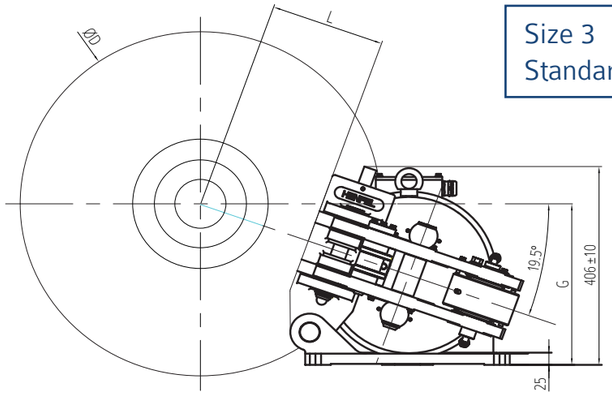
DISC [mm]	DIMENSIONS [mm]					INERTIA [kg.m²]	WEIGHT [kgf]	BRAKING TORQUE [Nm]		BRAKING EFFORT [N]	
ØD	Ød	E	F	G	L	J	P	FH-16E	FH-21E	FH-16E	FH-21E
550	40-100	134	104	345	145	3,22	103	3450	4650	16000	21000
625	40-140	167	137	357	180	4,15	118	4000	5500	16000	21000
705	40-140	209	179	372	225	6,65	145	4700	6350	16000	21000
795	40-180	247	217	385	265	11,50	224	5400	7350	16000	21000
995	40-180	344	314	420	368	30,76	315	7000	9400	16000	21000

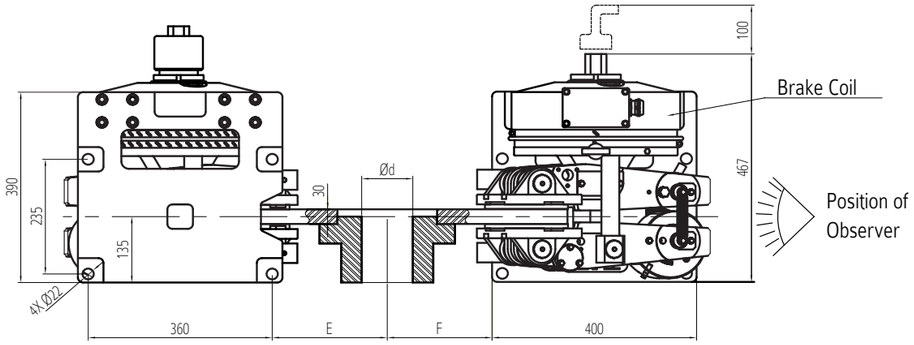
Electromagnetic Disc Brakes FH-10E

Size 3
Standard S-472B



Right Brake





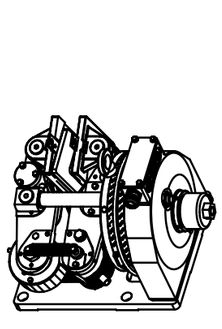
Dimensional of
Brake Base

TECHNICAL PROPERTIES			
Total Weight:	175 Kgf	Pads Wearing Recovery:	Self-adjustment
Braking:	Through springs	Thickness of the Disc:	30 mm
Release:	Electromagnetic	Response Time:	0,3 s
Torque Adjustment:	From +20% to -30 % (Rated)	Voltage of the coil:	230 / 40 VDC

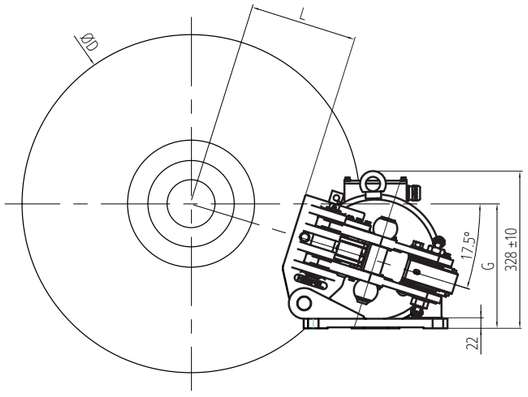
DISC [mm]	DIMENSIONS [mm]					INERTIA [kg.m²]	WEIGHT [kgf]	BRAKING TORQUE [Nm]	BRAKING EFFORT [N]
ØD	Ød	E	F	G	L	J	P	FH-10E	FH-10E
445	0-70	100	80	285	100	0,55	35	1750	10500
495	0-100	125	105	295	125	1,00	53	2000	10500
550	0-100	150	130	305	150	1,38	59	2300	10500
625	0-100	185	165	315	185	2,31	70	2700	10500
705	0-120	225	205	330	230	3,78	83	3140	10500
795	0-130	265	245	345	270	6,63	150	3600	10500

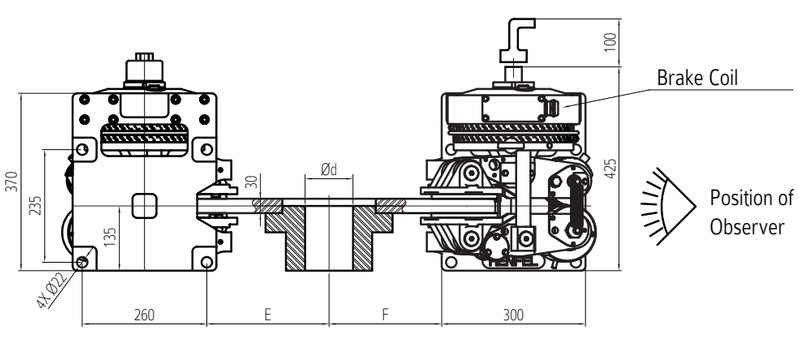
Electromagnetic Disc Brakes FH-6E / FH-8E

Size 4
Standard S-472B



Right Brake



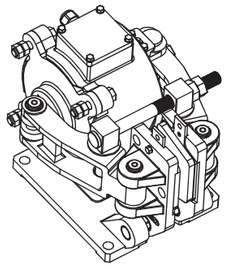


Dimensional of
Brake Base

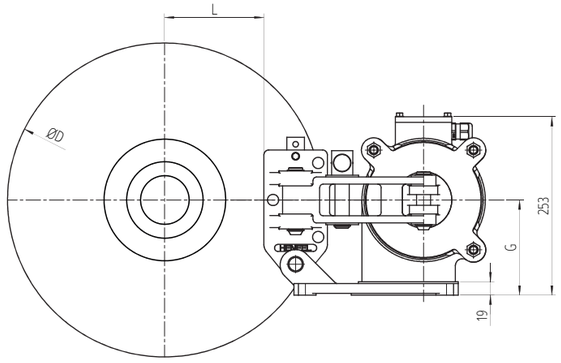
TECHNICAL PROPERTIES			
Total Weight	120 Kgf	Pads Wearing Recovery:	Self-adjustment
Braking:	Through springs	Thickness of the Disc:	30 mm
Release:	Electromagnetic	Response Time:	0,2 s
Torque Adjustment:	From +20% to -30 % Nominal	Voltage of the coil:	230 / 40 VDC

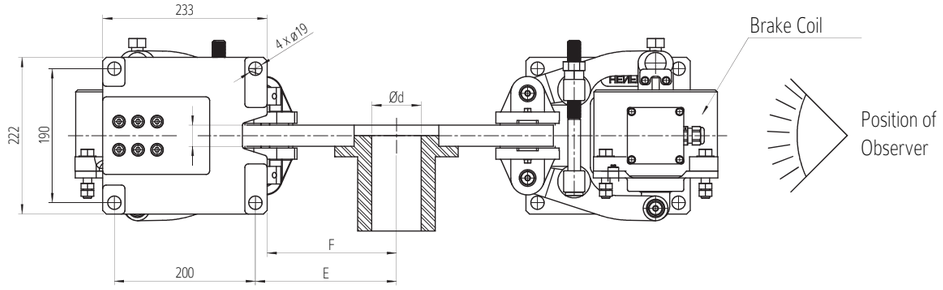
DISC [mm]	DIMENSIONS [mm]					INERTIA [kg.m²]	WEIGHT [kgf]	BRAKING TORQUE [Nm]		BRAKING EFFORT [N]	
ØD	Ød	E	F	G	L	J	P	FH-6E	FH-8E	FH-6E	FH-8E
445	0-70	130	110	225	100	0,55	35	1000	1340	6000	8000
495	0-100	155	135	235	125	1,00	53	1150	1540	6000	8000
550	0-100	180	160	240	165	1,38	59	1300	1760	6000	8000
625	0-100	215	195	250	185	2,31	70	1500	2060	6000	8000
705	0-120	255	235	260	225	3,78	83	1800	2380	6000	8000
795	0-130	295	275	275	265	6,63	150	2100	2740	6000	8000

Electromagnetic Disc Brakes FH-4E



Central Brake





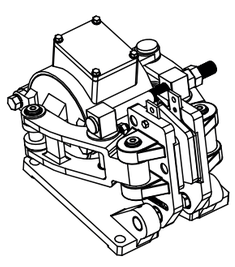
Dimensional of
Brake Base

TECHNICAL PROPERTIES			
Total Weight:	50 Kgf	Pads Wearing Recovery:	Self-adjustment
Braking:	Through springs	Thickness of the Disc:	30 mm
Release:	Electromagnetic	Response Time:	0,2s
Torque Adjustment:	From +20% to -30 % Nominal	Voltage of the coil:	230 / 40 VDC

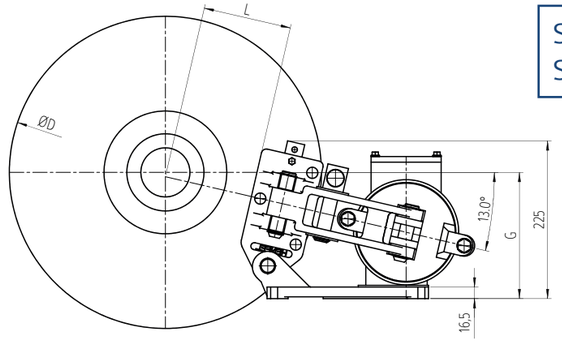
DISC [mm]	DIMENSIONS [mm]					INERTIA [kg.m²]	WEIGHT [kgf]	BRAKING TORQUE [Nm]	BRAKING EFFORT [N]
ØD	Ød	E	F	G	L	J	P	FH-4E	FH-4E
315	0-50	135	118	135	76	0,16	16	450	4000
355	0-60	150	138	135	96	0,24	21	530	4000
395	0-70	175	158	135	116	0,37	26	610	4000
445	0-70	200	183	135	141	0,55	35	705	4000
495	0-100	225	208	135	166	1,00	53	800	4000
550	0-100	252	235	135	193	1,38	59	905	4000
625	0-100	290	273	135	231	2,31	70	1050	4000

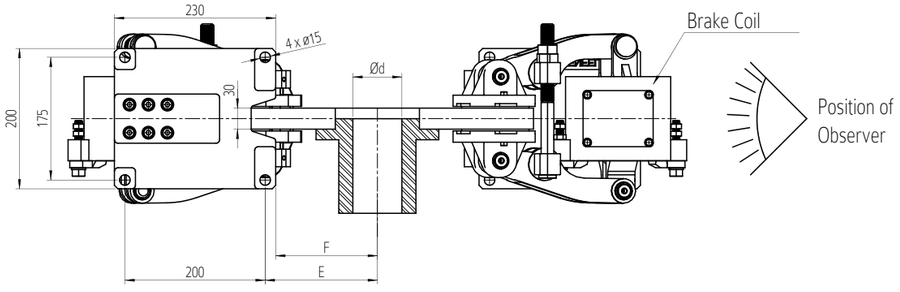
Electromagnetic Disc Brakes FH-2E / FH-1E

Size 5
Standard S-472B



Central Brake



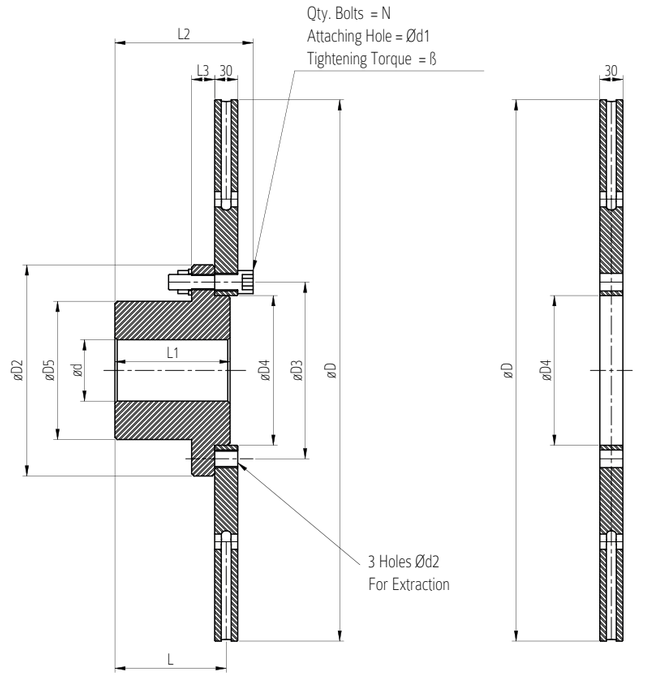


Dimensional of
Brake Base

TECHNICAL PROPERTIES			
Total Weight:	30 Kgf	Pads Wearing Recovery:	Self-adjustment
Braking:	Through springs	Thickness of the Disc:	15 or 30 mm
Release:	Electromagnetic	Response Time:	0,15 s
Torque Adjustment:	From +20% to -50 % Nominal	Voltage of the coil:	230 / 40 VDC

DISC [mm]	DIMENSIONS [mm]					INERTIA [kg.m²]	WEIGHT [kgf]	BRAKING TORQUE [Nm]		BRAKING EFFORT [N]	
ØD	Ød	E	F	G	L	J	P	FH-1E	FH-2E	FH-1E	FH-2E
260	0-50	80	65	155	45	0,08	12	75	150	825	1650
315	0-50	100	85	160	65	0,16	16	95	190	825	1650
355	0-60	120	105	165	85	0,24	21	110	220	825	1650
395	0-70	140	125	170	105	0,37	26	130	260	825	1650
445	0-70	160	145	180	130	0,55	35	150	300	825	1650
495	0-100	190	175	185	160	1,00	53	175	350	825	1650
550	0-100	220	205	195	190	1,38	59	195	390	825	1650
625	0-100	255	240	205	230	2,31	70	230	460	825	1650

Self-Ventilated Discs - Thickness 30 mm FH-DA-30

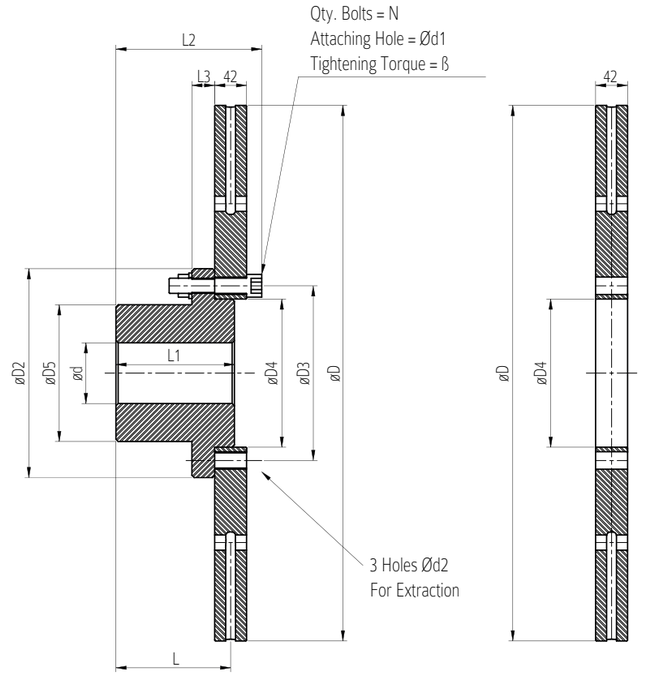


Disc with Hub

Disc without Hub

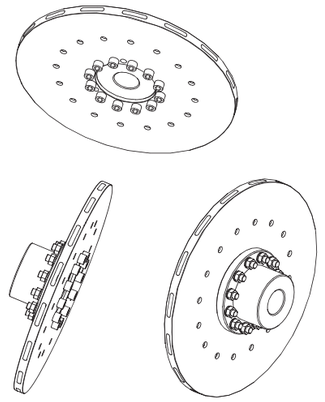
MODEL	ØD Standard		Inertia J [Kg/m²]	Weight [Kgf]	Speed Max. [min⁻¹]	DIMENSIONS [mm]												Bolt Torque ß [Nm]
	DIN	S-472B				ØD2	ØD3	ØD4	ØD5	Ød	Ødl	Ød2	N	L	Ll	L2	L3	
315 V 30	315		0,16	16	3000	125	105	85	80	0-50	10	M10	9	102	107	127	28	50
355 V 30	355		0,24	21	2700	145	125	105	95	0-60	12	M12	9	102	107	129	28	90
395 V 30		355	0,37	26	2400	165	140	115	105	0-70	14	M14	9	102	107	131	28	140
400 V 30	400																	
445 V 30		445	0,55	35	2100	175	146	120	110	0-70	16	M16	12	135	140	168	30	210
450 V 30	450																	
495 V 30		495	1,00	53	1900	220	180	160	150	0-100	18	M18	12	135	140	168	38	290
500 V 30	500																	
550 V 30		550	1,38	59	1800	220	190	160	150	0-100	18	M18	12	135	140	168	38	290
560 V 30	560																	
625 V 30		625	2,31	70	1500	235	205	170	150	0-100	20	M20	12	135	140	170	38	410
630 V 30	630																	
705 V 30		705	3,78	83	1300	265	230	195	180	0-120	22	M22	12	135	140	172	40	550
710 V 30	710																	
795 V 30		795	6,63	150	1200	300	260	220	210	0-130	24	M24	12	135	140	174	40	710
800 V 30	800																	

Self-Ventilated Discs - Thickness 42 mm FH-DA-42



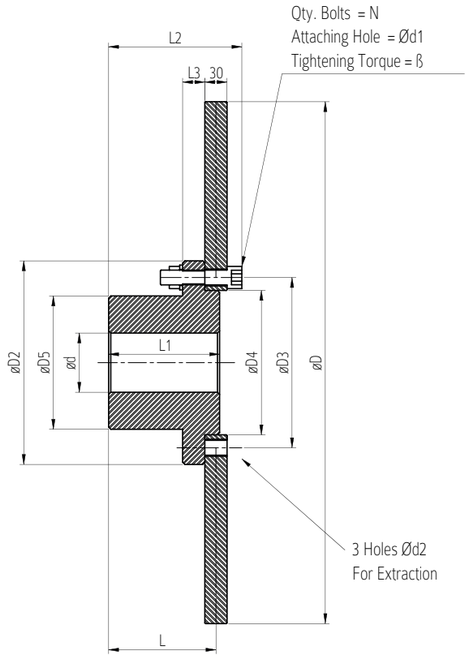
Disc with Hub

Disc without Hub

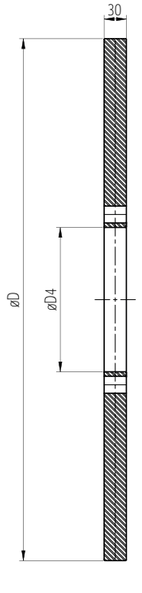


MODEL	ØD	Inertia J [Kg.m²]		Weight [Kgf]	Speed Max. [min⁻¹]	DIMENSIONS [mm]												Bolt Torque ß [Nm]
	STANDARD S-472B	with hub	without hub			ØD2	ØD3	ØD4	ØD5	Ød	Ødl	Ød2	N	L	Ll	L2	L3	
550 V 42	550	3,22	3,02	103	1500	270	230	190	180	0-120	25	M24	12	141	140	186	40	710
625 V 42	625	4,15	3,36	118	1500	300	260	220	210	0-140	25	M24	12	141	140	186	40	710
705 V 42	705	6,65	5,64	145	1300	300	260	220	210	0-140	25	M24	12	141	140	186	40	710
795 V 42	795	11,50	9,19	224	1200	380	330	280	260	0-180	31	M30	12	181	180	232	40	1120
995 V 42	995	30,76	24,37	315	900	380	330	280	260	0-180	31	M30	12	181	180	232	40	1120

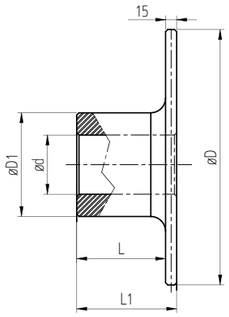
Solid Discs - 30/15 mm - Thickness FH-DM-30 or 15



Disc with Hub



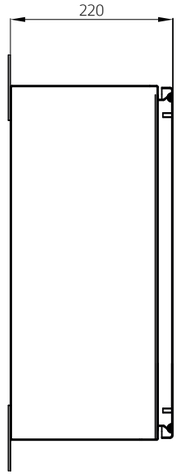
Disc without Hub

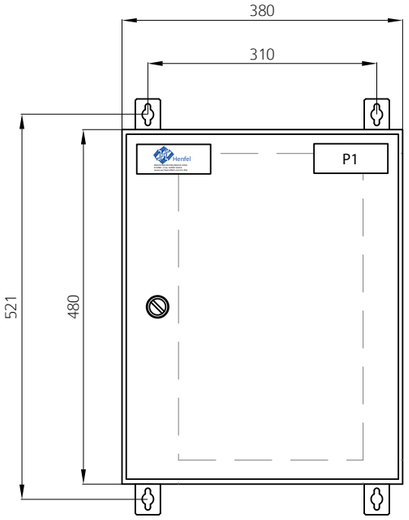


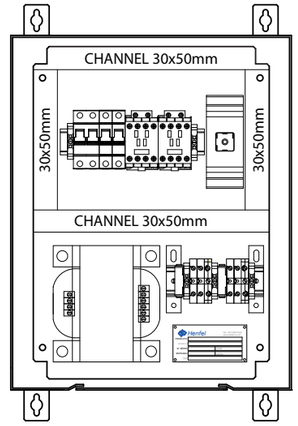
Disc with Hub
Ø 260 to 350

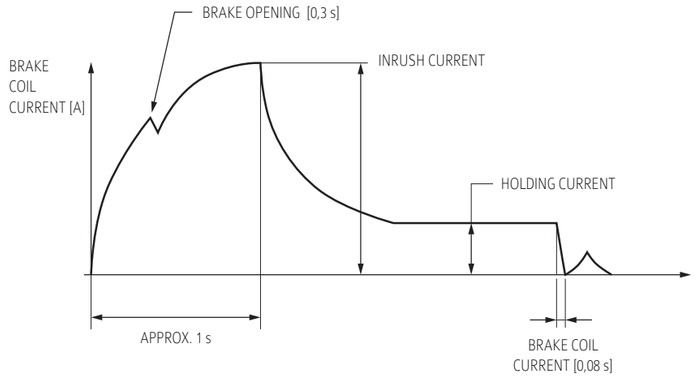
MODEL OF DISC	ØD Standard		Inertia J [Kg/m²]	Wei-ght [Kgf]	Speed Max. [min⁻¹]	DIMENSIONS [mm]												Bolt Torque ß [Nm]
	DIN	S-472B				D2	D3	D4	D5	Ød	DI	Ød2	i	L	LI	L2	L3	
260 M 30	260		0,08	12	3600	-	-	-	-	0-40	80	-	-	85	92	-	-	-
315 M 30	315		0,16	16	3000	-	-	-	-	0-50	80	-	-	102	109	-	-	-
350 M 30	350		0,24	21	2700	-	-	-	-	0-60	100	-	-	102	109	-	-	-
395 M 30		395	0,37	26	2400	-	-	-	-	0-70	120	-	-	102	109	-	-	-
400 M 30	400																	
445 M 30		445	0,55	35	2100	175	146	120	110	0-70	-	M-16	12	135	172	186	30	210
450 M 30	450																	
495 M 30		495	1,00	53	1900	220	180	160	150	0-100	-	M-18	12	135	172	188	38	290
500 M 30	500																	
550 M 30		550	1,38	59	1800	220	190	160	150	0-100	-	M-18	12	135	172	188	38	290
560 M 30	560																	
625 M 30		625	2,31	70	1500	235	205	170	150	0-100	-	M-20	12	135	180	197	38	410
630 M 30	630																	
705 M 30		705	3,78	83	1300	265	230	195	180	0-120	-	M-22	12	135	180	199	40	550
710 M 30	710																	
795 M 30		795	6,63	150	1200	300	260	220	210	0-130	-	M-24	12	135	180	202	40	710
800 M 30	800																	

Power Supply FH-FA-1kVA-50/10





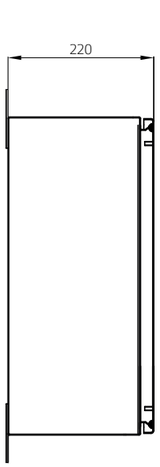




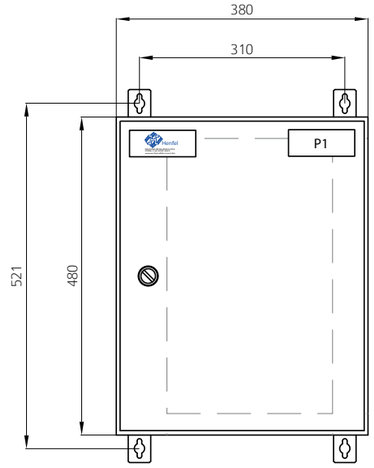
TECHNICAL PROPERTIES			
Total Weight:	29 Kgf	Admissible Tension Variation:	15%
Ambient Temperature:	-20°C to + 60°C	Frequency:	50 / 60 Hz
Feed Voltages:	220 / 380 / 440 / 480 V	Voltage Property:	Monophase

APPLICATION	ACTUATIONS / HOUR	ABSORBED POWER [W]		VOLTAGE AT THE TERMINALS OUTLET [VDC]		PRIMARY CIRCUIT FUSIBLE SOURCE INLET [A]			
TYPES OF BRAKES	FOR A BRAKE	INRUSH	HOLDING	INRUSH	HOLDING	220v	380v	440v	480v
FH-1E	1000	400	15	50	10	4	3	2	2
FH-2E	1000	400	15	50	10	4	3	2	2
FH-4E	700	1500	62	50	10	5	4	2	2
FH-6E	700	2340	92	50	10	6	4	3	3

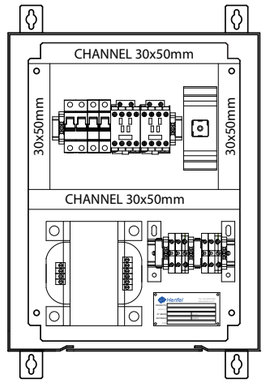
Power Supply FH-FA-1kVA-230/40



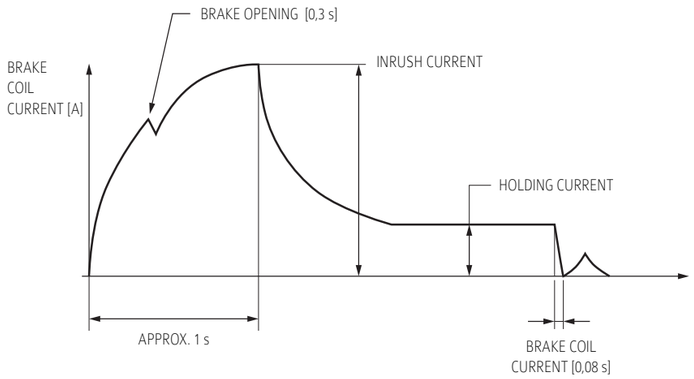
External Side View



External Front View



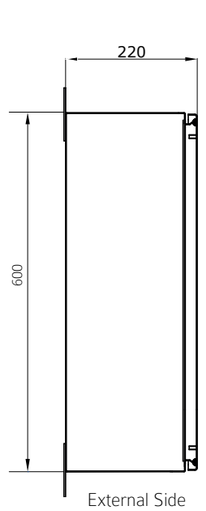
Internal Front View



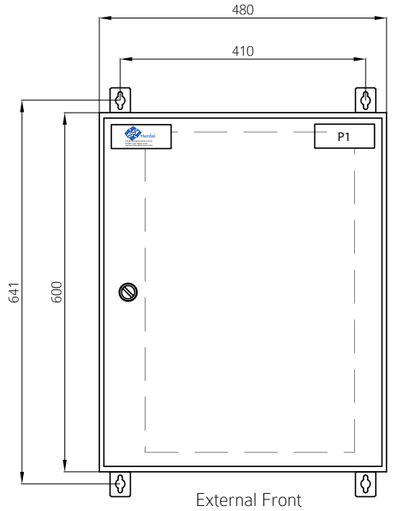
TECHNICAL PROPERTIES			
Total Weight:	29 Kgf	Admissible Tension Variation:	15%
Ambient Temperature:	-20°C to + 60°C	Frequency:	50 / 60 Hz
Feed Voltages:	220 / 380 / 440 / 480 V	Voltage Property:	Monophase

APPLICATION	ACTUATIONS / HOUR	ABSORBED POWER [W]		VOLTAGE AT THE TERMINALS OUTLET [Vcc]		PRIMARY CIRCUIT FUSIBLE SOURCE INLET [A]			
TYPES OF BRAKES	FOR A BRAKE	INRUSH	HOLDING	INRUSH	HOLDING	220v	380v	440v	480v
FH-1E	1000	400	15	230	40	4	3	2	2
FH-2E	1000	400	15	230	40	4	3	2	2
FH-4E	700	1500	62	230	40	5	4	2	2
FH-6E	700	2340	92	230	40	6	4	3	3

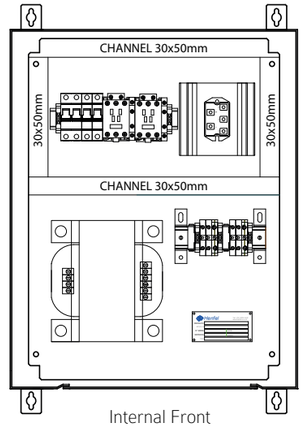
Power Supply FH-FA-2kVA-50/10



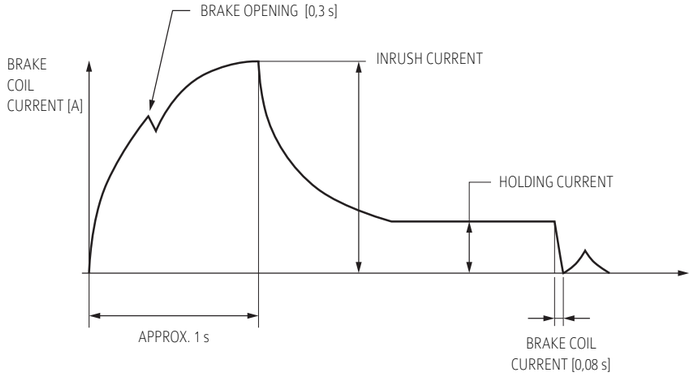
External Side View



External Front View



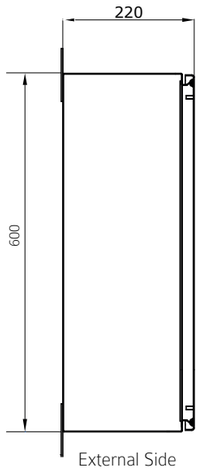
Internal Front View



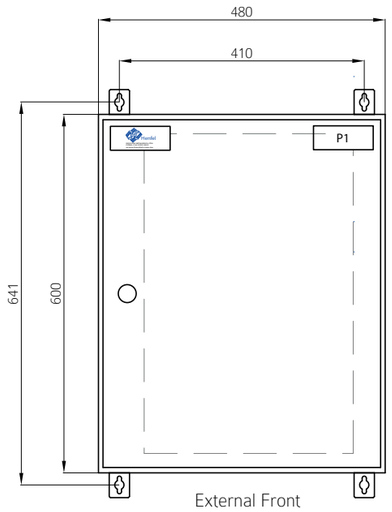
TECHNICAL PROPERTIES			
Total Weight:	45 Kgf	Admissible Tension Variation:	15%
Ambient Temperature:	-20°C to + 60°C	Frequency:	50 / 60 Hz
Feed Voltages:	220 / 380 / 440 / 480 V	Voltage Property:	Monophase

APPLICATION	ACTUATIONS / HOUR	ABSORBED POWER [W]		VOLTAGE AT THE TERMINALS OUTLET [Vcc]		PRIMARY CIRCUIT FUSIBLE SOURCE INLET [A]			
TYPES OF BRAKES	FOR A BRAKE	INRUSH	HOLDING	INRUSH	HOLDING	220v	380v	440v	480v
FH-8E	1000	3300	95	50	10	8	5	4	4
FH-10E	700	5200	160	50	10	16	10	6	5
FH-16E	700	5200	160	50	10	16	10	6	5
FH-21E	700	5200	160	50	10	16	10	6	5

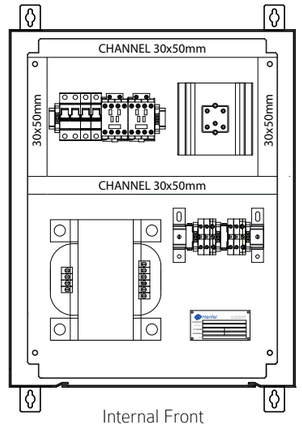
Power Source FH-FA-2kVA-230/40



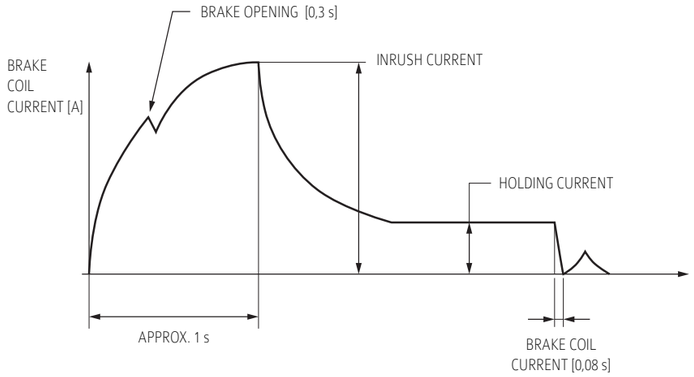
External Side View



External Front View



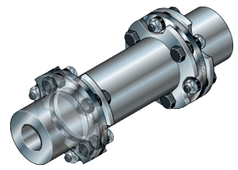
Internal Front View



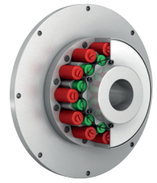
TECHNICAL PROPERTIES			
Total Weight:	45 Kgf	Admissible Tension Variation:	15%
Ambient Temperature:	-20°C to + 60°C	Frequency:	50 / 60 Hz
Feed Voltages:	220 / 380 / 440 / 480 V	Voltage Property:	Monophase

APPLICATION	ACTUATIONS / HOUR	ABSORBED POWER [W]		VOLTAGE AT THE TERMINALS OUTLET [Vcc]		PRIMARY CIRCUIT FUSIBLE SOURCE INLET [A]			
TYPES OF BRAKES	FOR A BRAKE	INRUSH	HOLDING	INRUSH	HOLDING	220v	380v	440v	480v
FH-8E	1000	3300	95	230	40	8	5	4	4
FH-10E	700	5200	160	230	40	16	10	6	5
FH-16E	700	5200	160	230	40	16	10	6	5
FH-21E	700	5200	160	230	40	16	10	6	5

OTHER PRODUCTS

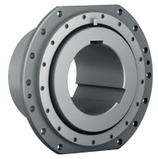

Metal Disc Couplings


Elastic Couplings with Axial Pin


Highly Flexible Couplings


Gear Couplings


Flange Couplings


Barrel Couplings


Elastic Couplings

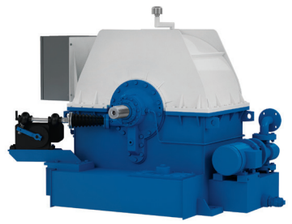

Split Elastic Couplings


Hydrodynamic Couplings


Shrink Discs


Locking Assemblies


Friction Springs


Variable Speed Hydrodynamic Couplings


Bearing Housings

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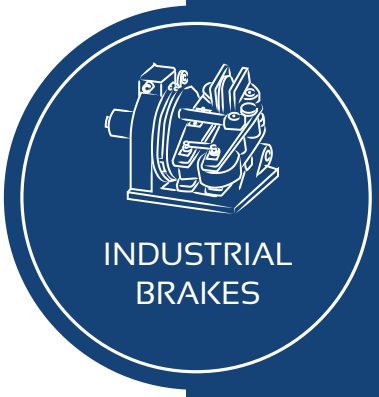

The safety of workers and production are key factors in the success of any company. Therefore, the braking systems play a very important role in the operation and security of industrial equipments.

Henfel's new industrial brakes line were carefully developed and dimensioned with the purpose to meet the requirements of international technical standards, and attend a wide range of demanding applications, under the compliance of extreme operation conditions.

The engineering department applied modern techniques and technological RD&I resources in order to project and design industrial brakes which combine high performance, reliability, durability and easy maintenance.

Partner for Performance

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