MICRO AND MINI ELECTRO PUMP-SETS

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MINI ELECTRO PUMPS 1G.

CONTENT

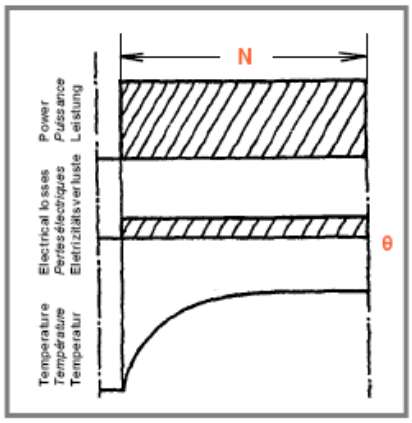
SALES ORGANISATION

DUTY TYPES DIRECT CURRENT MOTORS

Representative chart
Schéma représentatif
Schema als Beispiel

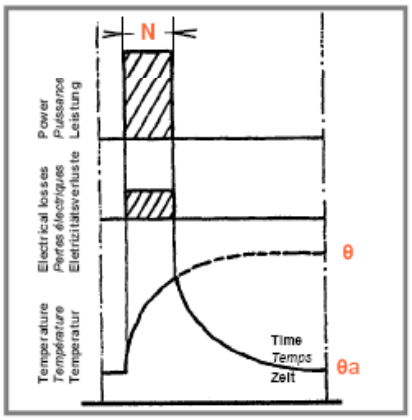
S1
Continuous Duty

Duty type consisting of working at a constant load during a certain time long enough to reach the thermal equilibrium.



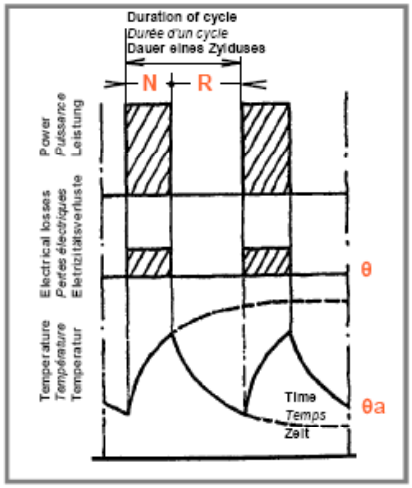
S2
Temporary Duties

Duty types consisting of working at constant load during a determined period shorter than the one necessary for reaching the thermal equilibrium, followed by a rest the duration of wich should be long enrough to reach the same temperature as the cooling medium.



S3
Periodical intermittent Duties

Types of dutiesconsisting of a series of identical cycles each of them including a working time at constant load and a rest time, the durations being not sufficient for reaching the thermal equilibrium during the heating periods as well as the cooling periods.



Legend:
N: Working at nom. load
R: Rest
D: Starting
θ: Temperture during Continuous Duty
θa: Temperature of cooling medium

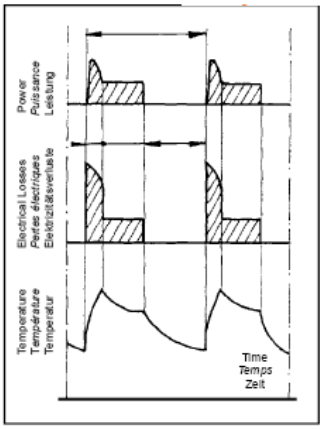
GB

DUTY TYPES DIRECTCURRENTMOTORS

S4

Intermittent starting Duties

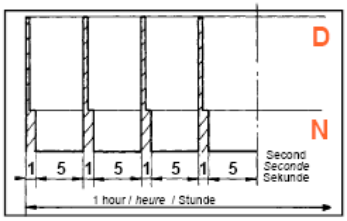
Types of duties consisting of a series of identical cycles ,each of them including a starting time, a working time at constant load and a rest time. The working time and the rest time are short enough not to reach the thermal equilibrium during a cycle.
In these duties, the motor stops either due to the natural slowing-down after switching off or by means of a brake such as a mechanical brake which does not cause complementary heating-up of the coils.



S4a

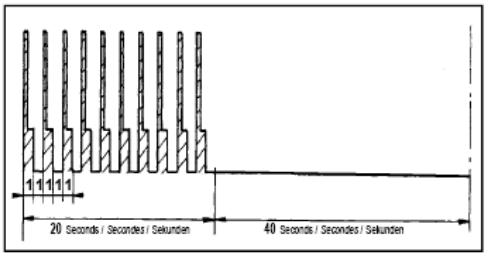
Specific Duties

Determines the number of startings per hour according to the S4 cycle here after mentioned :
- 1 second of working time
- 5 seconds of rest time.



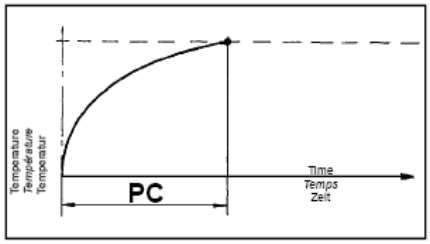
S4b

Determines the number of startings per hour according to the S4 cycle here after mentioned :
- 1 second of working time
- 1 second of rest time during 20 seconds;
- 40 seconds of rest time.



PC

Critical moment at permanent functioning S2 under load in minutes before destruction.

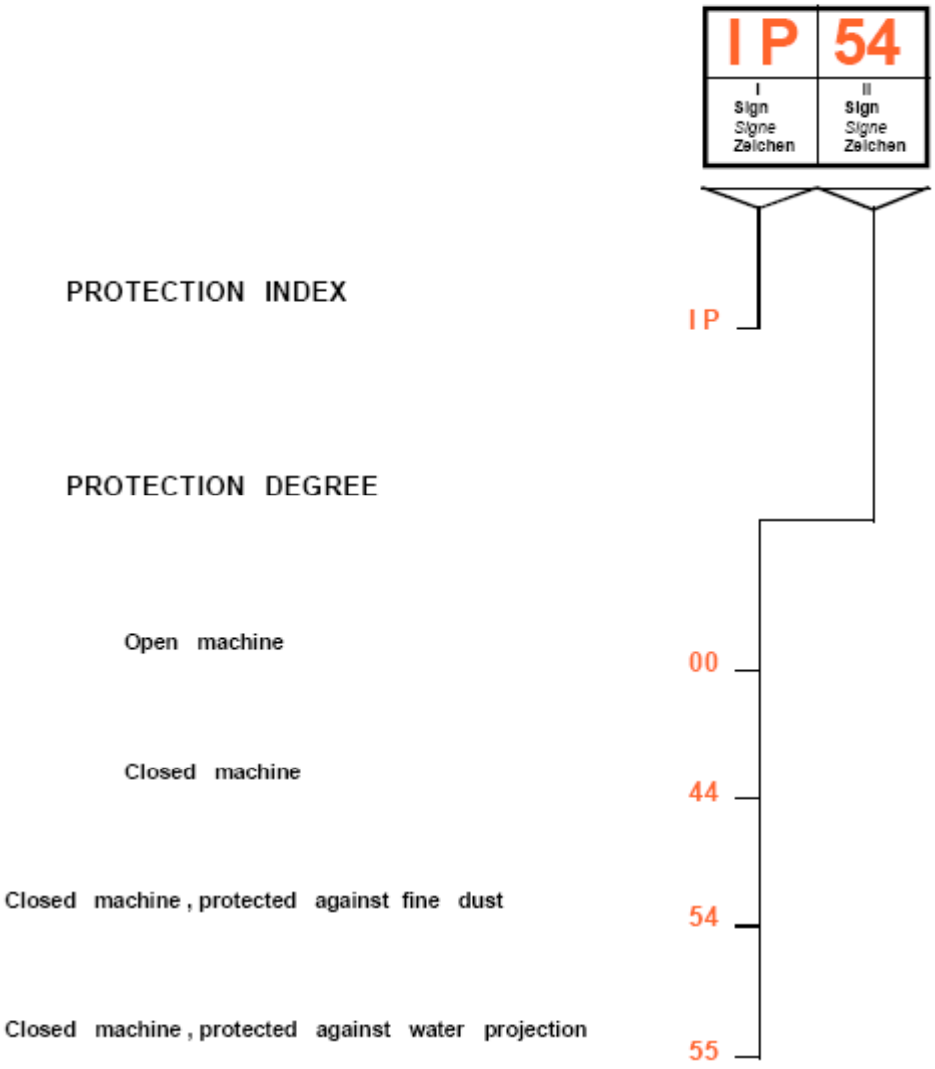


Legend :

N Working at nom. load
R Rest
D Starting
θ Temperature during Continuous Duty
θa Temperature of cooling medium

Documentation :
French Standards NFC 51 111
German Standards VDE 530-1

PROTECTION AND TIGHTNESS OF THE DC AND AC MOTORS



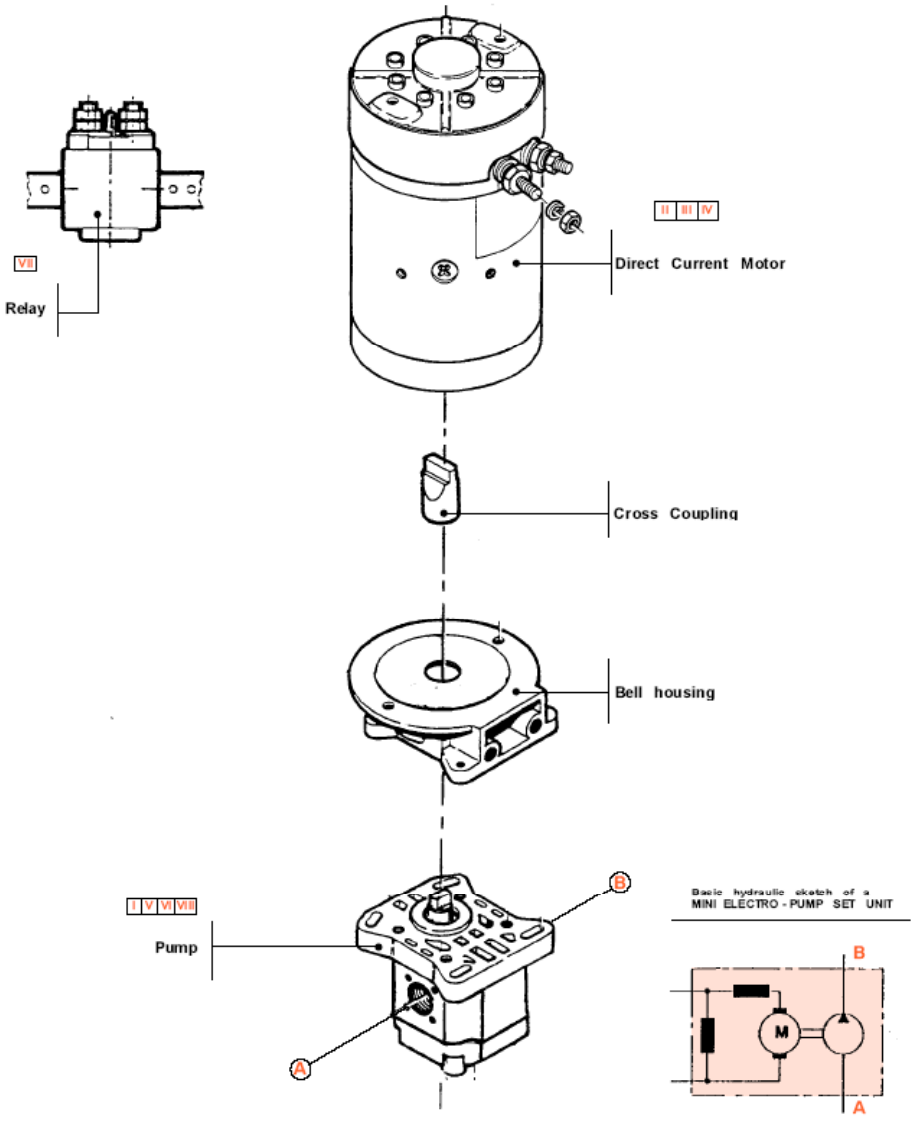
DIRECT CURRENT

Code	Power kW		Flow
	12 V	24 V	
DI	1,3	1,5	0,2 to 12 l / min
BI	1,5	1,8	
BL	2,1	2,2	
CI		3	
CV		3	

Exploded view

CODIFICATION

CODIFICATION	11	BL	2	C	3	T	R	XX	X
	I	II	III	IV	V	VI	VII	VIII	IX
(F.T R 0014)	Sign Signe Zeichen	Sign Signe Zeichen	Sign Signe Zeichen	Sign Signe Zeichen	Sign Signe Zeichen	Sign Signe Zeichen	Sign Signe Zeichen	Sign Signe Zeichen	Sign Signe Zeichen

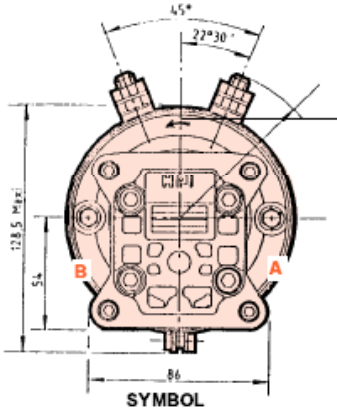


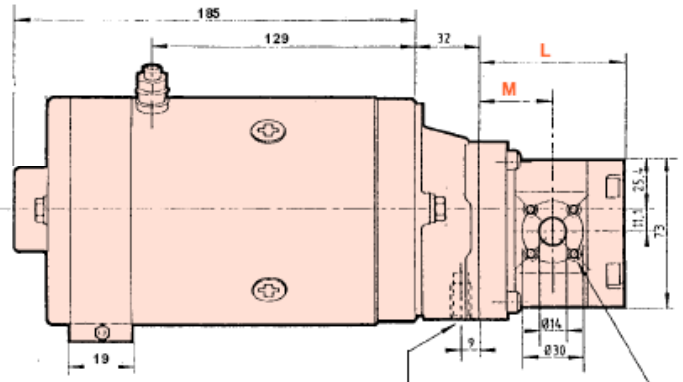
TECHNOLOGICAL COMPOSITION of MINI ELECTRO - PUMPS

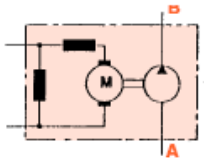
CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	DI	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

(F.T R 0014)



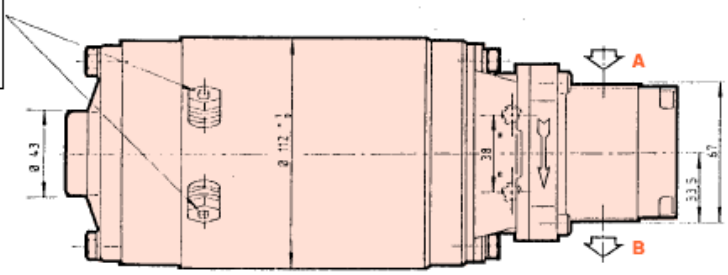




2 Terminals M 8 x 1,25

Tightening torque of nut

Kgm
1,2 +0,1 m.daN
0 Kpm



PUMP TYPE	M	L
to 1001 à 1003 bis	35,9	72,6
to 1004 à 1006 bis	40,7	82,4

PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity - see data sheets F.T 10 022 2/3 - 3/3

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR D.C electric motor COMPOUND ENERGIZING
Ref. : 12 V : 110 806
24 V : 110 807

Nominal power periodical and intermittent
Duty **S3** (10% of 10 min)
12 V : 1,3 kW - 24 V : 1,5 kW
other duties, see curves on the reverse side
Protection (linking excepted) : IP 44
Standard VDE 530-1 and NF C 51 115

PUMP This electro pump unit is fitted with a Series 0 Pump Type : P 1 CBN 1000 C L 40 C15 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet F.T 10 138

RELAY (OPTION) , see data sheet F.T 00 039

For CODIFICATION , see data sheet F.T R 0014

MASS of the electro pump unit : 10 Kg

MINI ELECTRO - PUMPS **SERIES 1** **DIRECT CURRENT** 12 V : 1,3 kW
24 V : 1,5 kW

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	DI	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

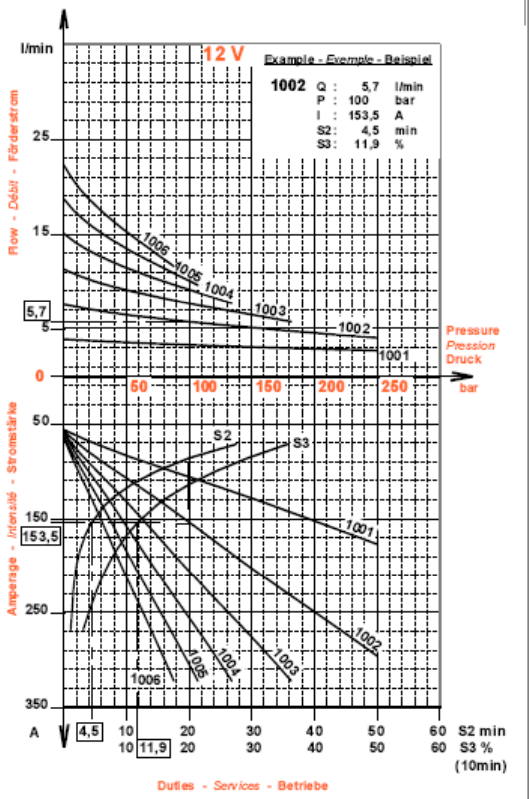
(F.T R 0014)

DIRECT CURRENT MOTOR 1,3 kW
NOMINAL POWER
S3 (10 % of 10 min)

References **110 806**

Code **D I | 1**

II	III
Sign Signe Zeichen	Sign Signe Zeichen

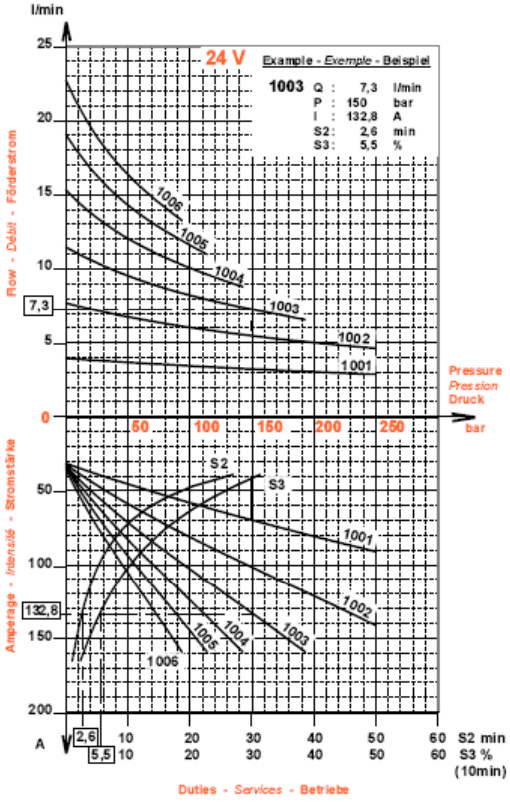


DIRECT CURRENT MOTOR 1,5 kW
NOMINAL POWER
S3 (10 % of 10 min)

References **110 807**

Code **D I | 2**

II	III
Sign Signe Zeichen	Sign Signe Zeichen



S1 : Continuous Duty
S2 : Temporary Duty (min)
S3 : Periodical Intermittent Duty (10% of 10 min)
S4a - S4b : Intermittent Starting Duty

P C : Critical Moment (min)
I D : Starting Amperage 12 V : 800 Amp.
24 V : 650 Amp.

Curves drawn with
a constant tension : Oil SHELL Tellus T46
Viscosity 46 cSt (± 10%) at 40 °C

Test temperature : Oil 40 °C
Ambient 20 °C

Characteristics given as an indication

Reading example

ELECTRO - HYDRAULIC CHARACTERISTICS

MOTOR TYPE **D I** 12 V : 1,3 kW
24 V : 1,5 kW

DIRECT CURRENT ELECTRIC MOTOR
ENERGIZING COMPOUND

References :	II Signe	III Signe
12 V : 110 806	DI	1
24 V : 110 807	DI	2

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	DI	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	XX	X

(F.T R 0014)

PUMPS POMPES PUMPEN		12 V PRESSURE - PRESSION - DRUCK								24 V PRESSURE - PRESSION - DRUCK							
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI
Q																	
Flow in l / min *Débit en l / min* Fördermenge in l / min																	
I																	
Amperage *Intensité en Ampères* Stromstärke in Ampere																	
S1 Permanent *Permanent* Dauerbetrieb																	
S2 min																	
S3 % (10 min)																	
1001	Q	3,9	3,6	3,3	3,1	3	2,9	2,8	2,7	3,9	3,7	3,4	3,2	3,1	3	2,95	2,8
	I	59,5	83,3	105,8	128,4	140,2	152,2	164,5	176,8	32,9	45,3	57,9	69,5	75,1	80,4	85,7	90,8
	S2	30	21,3	12,9	7,8	6	4,6	3,6	2,9	30	21,4	14,5	10,6	9,3	8,1	7,2	6,4
	S3	40,9	30,6	22,3	16,4	14	12,1	10,4	9	34,5	27,9	22,1	17,9	16,2	14,7	13,3	12,2
1002	Q	7,5	6,5	5,7	5,1	4,8	4,6			7,6	6,8	6	5,5	5,2	5	4,8	4,6
	I	64,2	107,1	153,5	202,4	226,1	249,2			35,1	58,6	81	101,4	111,3	121,2	131,2	141,2
	S2	30	12,6	4,5	2	1,6	1,3			30	14,3	8	5,1	4,1	3,4	2,7	2,1
	S3	39	22	11,9	6,8	5,3	4,1			33,3	31,8	14,5	10,1	8,4	7	5,7	4,6
1003	Q	11	9,2	7,7						11,2	9,5	8,2	7,3	6,8	6,5		
	I	68,8	127	205,5						37,5	71,2	102,7	132,8	148,1	163,6		
	S2	29,1	7,2	1,9						28,3	10,2	5	2,6	1,8	1,1		
	S3	36,9	15,6	6,6						32	17,3	9,8	5,5	3,9	2,5		
1004	Q	14,5	11,5	9,2						14,9	12	10,1	8,6				
	I	71,7	157,6	255,3						39	82,8	123,9	165,4				
	S2	27,4	4,2	1,3						26,8	7,7	3,2	1				
	S3	35,7	11,3	3,8						31,2	14,1	6,6	2,3				
1005	Q	17,9	13,5							18,4	14,3	11,6					
	I	76,1	184							41,3	93,8	144,8					
	S2	25	2,6							24,6	6	1,9					
	S3	33,7	8,3							30	11,5	4,2					
1006	Q	21,2	15,3							21,8	16,4	12,9					
	I	80,8	211,8							43,9	105,4	167,5					
	S2	22,5	1,8							22,5	4,7	0,9					
	S3	31,6	6,2							28,6	9,4	2,2					

Charts drawn with a constant tension

Oil SHELL Tellus T 46
Viscosity 46 cSt (± 10 %) at 40 °C
Test temperature : Oil 40 °C
Ambient 20 °C

MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF MINI ELECTRO - PUMPS

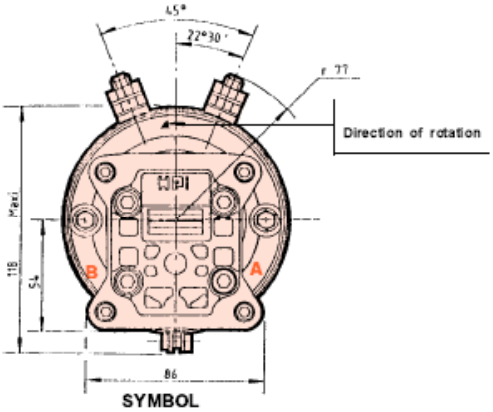
MOTOR DI

12 V : 1,3 kW
24 V : 1,5 kW

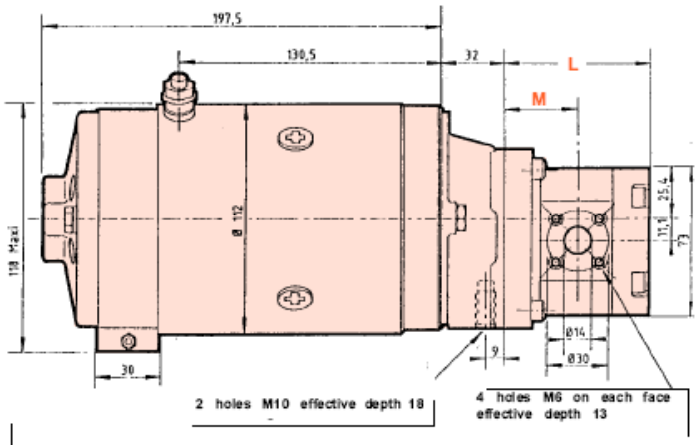
CODIFICATION

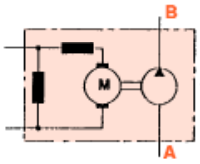
I	II	III	IV	V	VI	VII	VIII	IX
11	BI	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

(F.T R 0014)



SYMBOL



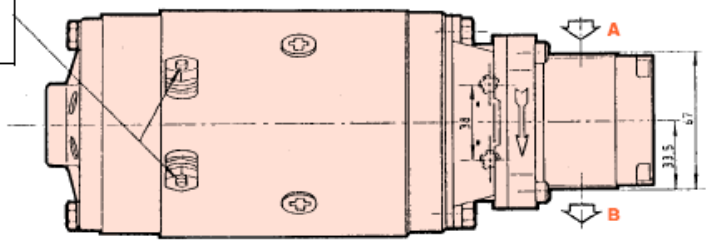


2 Terminals

M 8 x 1,25

Tightening torque of nut

1,2 +0,1 Kgm m.daN
0 Kpm



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	72,6
to 1004 à 1006 bis	40,7	82,4

PERFORMANCES Characteristics of Flow - Rate - Pressure - Power - Intensity - see data shee F.T 10 058 2/3 - 3/3

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our technical departments

WORKING Horizontal or vertical position

ACCESSOIRES

MOTOR D.C electric Motor ENERGIZING COMPOUND
Ref. : 12 V : 110 677
24 V : 110 678

Nominal power Periodical and intermittent
Duty **S3** (10% of 10 min)
12 V : 1,5 kW - 24 V : 1,8 kW
other duties , see curves at the back
Protection (linking excepted) : IP 44
Standard VDE 530-1 and NF C 51 111

PUMP This electro pump unit is fitted with Series 0 Pumps Type : P 1 CBN 1000 C L 40 C15 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc / rev
see data sheet F.T 10 138

RELAY (OPTION) , see data sheet F.T 00 039

For CODIFICATION , see data sheet F.T R 0014

MASSE of the electro pump set unit : 10 Kg

MINI ELECTRO - PUMPS **SERIES 1** **DIRECT CURRENT** 12 V : 1,5 kW
24 V : 1,8 kW

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	BI	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

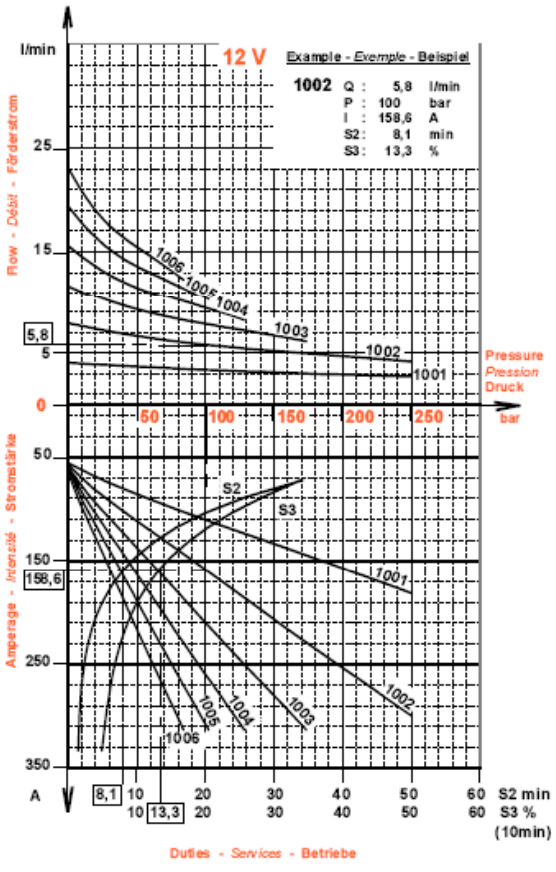
(F.T R 0014)

DIRECT CURRENT MOTOR 1,5 kW
NOMINAL POWER
S3 (10 % of 10 min)

References **110 677**

Code **B I | 1**

II	III
Sign Signe Zeichen	Sign Signe Zeichen

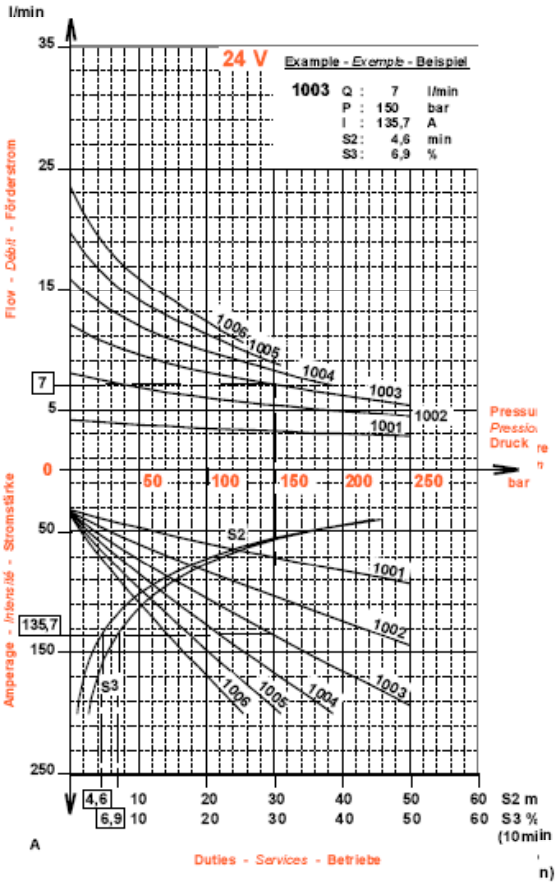


DIRECT CURRENT MOTOR 1,8 kW
NOMINAL POWER
S3 (10 % of 10 min)

References **110 678**

Code **B I | 2**

II	III
Sign Signe Zeichen	Sign Signe Zeichen



S1 : Continuous Duty
S2 : Temporary Duty (min)
S3 : Periodical Intermittent Duty (10% of 10 min)
S4a - S4b : Intermittent Starting Duty

P C : Critical Moment (min)
I D : Starting Amperage 12 V : 800 Amp.
24 V : 650 Amp.

Curves drawn with
a constant tension : Oil SHELL Tellus T46
Viscosity 46 cSt (± 10%) at 40 °C

Test temperature : Oil 40 °C
Ambient 20 °C

Characteristics given as an indication

Reading example

ELECTRO - HYDRAULIC CHARACTERISTICS

MOTOR TYPE **B I** 12 V : 1,5 kW
24 V : 1,8 kW

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	BI	Sign *Signe* Zeichen	C	Sign *Signe* Zeichen	T	Sign *Signe* Zeichen	XX	X

(F.T R 0014)

DIRECT CURRENT ELECTRIC MOTOR
ENERGIZING COMPOUND

References :	II Signe	III Signe
12 V : 110 677	B I	1
24 V : 110 678	B I	2

PUMPS *POMPES* PUMPEN		12 V PRESSURE - *PRESSION* - DRUCK								24 V PRESSURE - *PRESSION* - DRUCK							
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI
1001	Q	4	3,7	3,4	3,1	3	2,9	2,8	2,7	4,1	3,8	3,5	3,2	3,1	3	2,9	2,8
	I	59,3	85,8	110,3	133,6	145,4	157,3	169,3	181,4	33,9	46,8	59,6	71,3	76,8	82,3	87,6	92,9
	S2	30	27,1	17,9	12,1	10	8,3	6,8	5,7	30	30	27,2	20,5	18	15,9	14	12,4
	S3	38,3	29,2	22,1	17,1	15,1	13,5	12	10,8	50	37,8	28,3	22,2	19,9	17,9	16,2	14,7
1002	Q	7,7	6,6	5,8	5,2	4,9	4,7	4,4	4,2	7,9	6,8	6	5,4	5,1	4,9	4,7	4,5
	I	64,5	111,6	158,6	206,7	230,4	253,6	276,4	299,4	36,3	60,3	82,9	103,8	114	124,1	134,1	144
	S2	30	17,5	8,1	3,9	2,9	2,3	1,9	1,6	30	26,8	15,7	9,7	7,6	6	4,7	3,7
	S3	36,6	21,8	13,3	8,9	7,6	6,7	6	5,5	49,4	27,9	17,7	12	10	8,4	7,1	6
1003	Q	11,4	9,2	7,8	6,7	6,1				11,6	9,5	8	7	6,6	6,2		
	I	69,7	137,1	209,9	280,2	315,3				38,7	73	105,1	135,7	150,6	165		
	S2	30	11,4	3,7	1,8	1,5				30	19,7	9,4	4,6	3,2	2,2		
	S3	34,8	16,5	8,7	5,9	5,2				46,2	21,5	11,7	6,9	5,4	4,3		
1004	Q	15,1	11,5	9,4						15,3	11,9	9,8	8,2				
	I	72,9	162,5	259,8						40,3	84,6	126,8	166,6				
	S2	30	7,6	2,1						30	15	5,6	2,1				
	S3	33,7	12,8	6,5						44,4	17,1	8	4,2				
1005	Q	18,6	13,6	10,4						18,9	14	11,2					
	I	77,7	188,5	307,6						42,7	95,9	147,4					
	S2	30	5,1	1,6						30	11,6	3,4					
	S3	32	10,2	6,4						41,7	13,9	5,7					
1006	Q	21,9	15,5							22,3	16	12,2					
	I	83,1	216,1							45,4	107,8	168,5					
	S2	28,4	3,5							30	8,8	2					
	S3	30,2	8,3							39,1	11,2	4,1					

Q — Flow in l / min *Débit en l / min* Fördermenge in l / min

I — Amperage *Intensité en Ampères* Stromstärke in Ampere

S1 Permanent *Permanent* Dauerbetrieb

S2 min

S3 % (10 min)

Charts drawn with a constant tension

Oil SHELL Tellus T 46
Viscosity 46 cSt (± 10 %) at 40 °C
Test temperature : Oil 40 °C
Ambient 20 °C

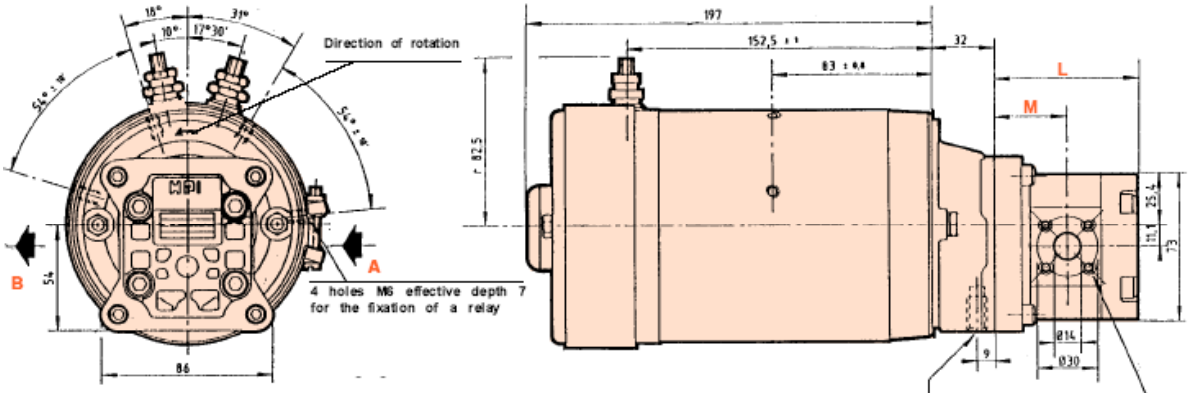
MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF MINI ELECTR - PUMPS

MOTOR **BI** — 12 V : 1,5 kW
24 V : 1,8 kW

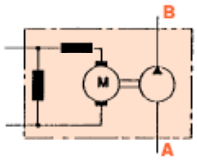
CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	BL	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

(F.T R 0014)



SYMBOL



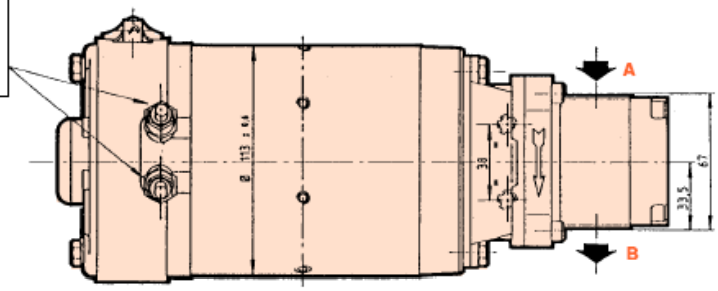
2 Terminals M7 x 1

Tightening torque of nut

Kgm

0,5 + 0,05 m.daN

0 Kpm



PUMP TYPE	M	L
to 1001 à 1003 bis	35,9	72,6
to 1004 à 1006 bis	40,7	82,4

PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity - see data sheets F.T 10 921 2/3 - 3/3

working **TEMPERATURE** from -15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR D.C electric motor COMPOUND ENERGIZING
Ref. : 12 V : 109 523 - * 109 589
24 V : 109 524 - * 109 571
* with Thermo-switch
Nominal power periodical and intermittent
Duty S3 (10% of 10 min)
12 V : 2,1 kW - 24 V : 2,2 kW
other duties , see curves on the reverse side
Protection (linking excepted) : IP 44
Standard VDE 530-1 and NF C 51 115

PUMP This electro pump unit is fitted with a Series 0 Pump Type : P 1 CBN 1000 C L 40 C15 of capacity : 1 - 2 - 3 - 4 - 5 - 6 *cc/rev*
see data sheet F.T 10 138

RELAY (OPTION) , see data sheet F.T 00 039

For CODIFICATION , see data sheet F.T R 0014

MASS of the electro pump unit : 10 Kg

MINI ELECTRO - PUMPS **SERIES 1** **DIRECT CURRENT** 12 V : 2,1 kW
24 V : 2,2 kW

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	BL	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

(F.T R 0014)

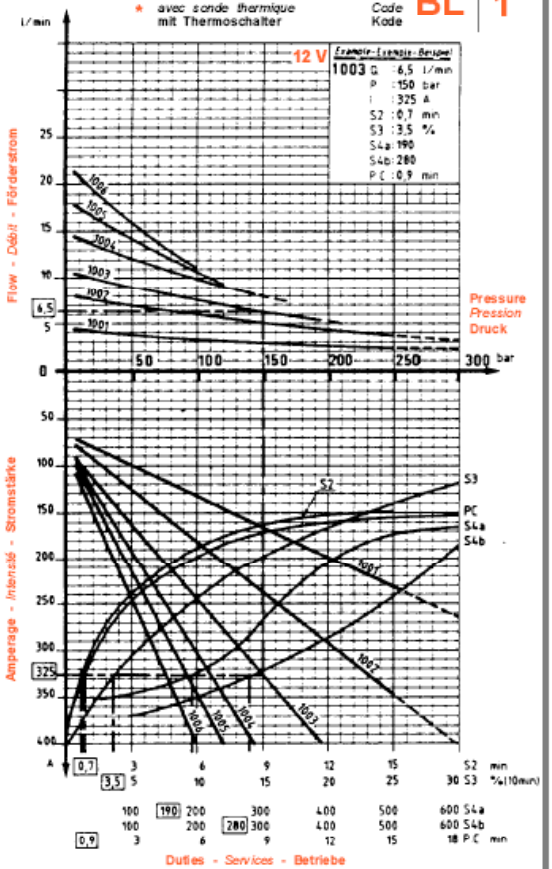
DIRECT CURRENT MOTOR 2,1 kW
NOMINAL POWER
S3 (10 % of 10 min)

References
109 523
*** 109 589**

II	III
Sign Signe Zeichen	Sign Signe Zeichen

* with Thermo - switch
avec sonde thermique
mit Thermoschalter

Code *Code* Kode **BL 1**



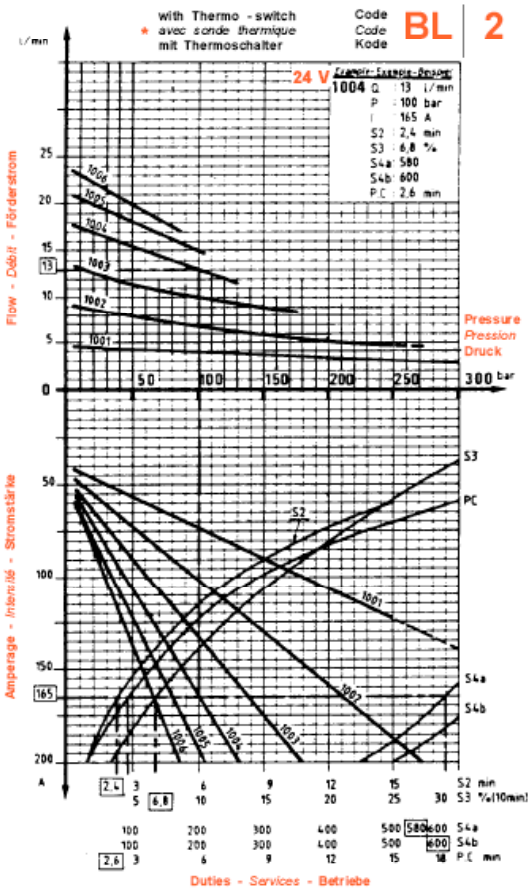
DIRECT CURRENT MOTOR 2,2 kW
NOMINAL POWER
S3 (10 % of 10 min)

References
109 524
*** 109 571**

II	III
Sign Signe Zeichen	Sign Signe Zeichen

* with Thermo - switch
avec sonde thermique
mit Thermoschalter

Code *Code* Kode **BL 2**



S1 : Continuous Duty
S2 : Temporary Duty (min)
S3 : Periodical Intermittent Duty (10% of 10 min)
S4a - S4b : Intermittent Starting Duty

PC : Critical Moment (min)
ID : Starting Amperage 12 V : 800 Amp.
24 V : 650 Amp.

Curves drawn with
a constant tension : Oil SHELL Tellus T46
Viscosity 46 cSt (± 10%) at 40 °C

Test temperature : Oil 40 °C
Ambient 20 °C

Characteristics given as an indication

Reading example

ELECTRO - HYDRAULIC CHARACTERISTICS

MOTOR TYPE BL
12 V : 2,1 kW
24 V : 2,2 kW

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	BL	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	XX	X

(F.T R 0014)

DIRECT CURRENT ELECTRIC MOTOR
ENERGIZING COMPOUND

References :	II Signe	III Signe
12 V : 109 523 / 109 589 *	BL	1
24 V : 109 524 / 109 571 *	BL	2

* with thermo-switch

PUMPS *POMPES* PUMPEN		12 V PRESSURE - *PRESSION* - DRUCK								24 V PRESSURE - *PRESSION* - DRUCK							
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI
1001	Q	4,5	3,8	3,3	2,9	2,7	2,5	2,3	2,15	4,5	4,2	3,8	3,5	3,4	3,3	3,2	3
	I	70	100	132	155	182	200	215	232	41	57	73	90	98	106	115	123
	S2	15	15	15	8,5	6,5	5	4	3,5	15	15	11,7	9	7,8	6,8	6,15	5,3
	S3	30	30	25	19	17	15	13	11	28,5	25	21,5	18	16,5	15	13,6	12
1002	Q	8	7	6	5,2	4,6	4,3	4	3,8	8,5	7,5	6,5	5,4	5	4,8	2,1	2
	I	76	125	180	235	262	292	320	350	47	73	102	130	145	159	174	187
	S2	15	15	6,5	3	2	1,2	0,8	0,3	15	11,7	7,5	4,6	3,6	2,6	1,9	1,3
	S3	30	28	17	10	7	5,5	4	2,5	60	60	54	16	9,5	7,6	5,9	4,3
1003	Q	10,6	9,6	7,6	6,5	5,9				12,9	11,5	9,8	8,3	7,6			
	I	90	162	244	327	366				51	90	133	175	198			
	S2	15	9	2,5	0,7	0,3				15	9,2	4,5	1,7	1			
	S3	30	20	9	3,5	1,5				27	18,4	11	5,6	3,7			
1004	Q	14,5	12	9,8						17,6	15,4	13					
	I	94	192	302						55	104	165					
	S2	15	5	1,2						15	7	2,4					
	S3	30	15,5	5,5						26	15,2	6,9					
1005	Q	18	14,2	6,1						20,8	18,2	15					
	I	96	215	348						15	122	193					
	S2	15	5	1,2						15	5,5	1,1					
	S3	30	15,5	5,5						24,5	12,5	3,8					
1006	Q	21,4	16							23,5	19,8						
	I	105	242							16	135						
	S2	15	3							14,5	4,15						
	S3	60	10							24,2	10,5						

Q — Flow in l / min *Débit en l / min* Fördermenge in l / min

I — Amperage *Intensité en Ampères* Stromstärke in Ampere

S1 Permanent *Permanent* Dauerbetrieb

S2 min

S3 % (10 min)

Charts drawn with a constant tension

Oil SHELL Tellus T 46
Viscosity 46 cSt (± 10 %) at 40 °C
Test temperature : Oil 40 °C
Ambient 20 °C

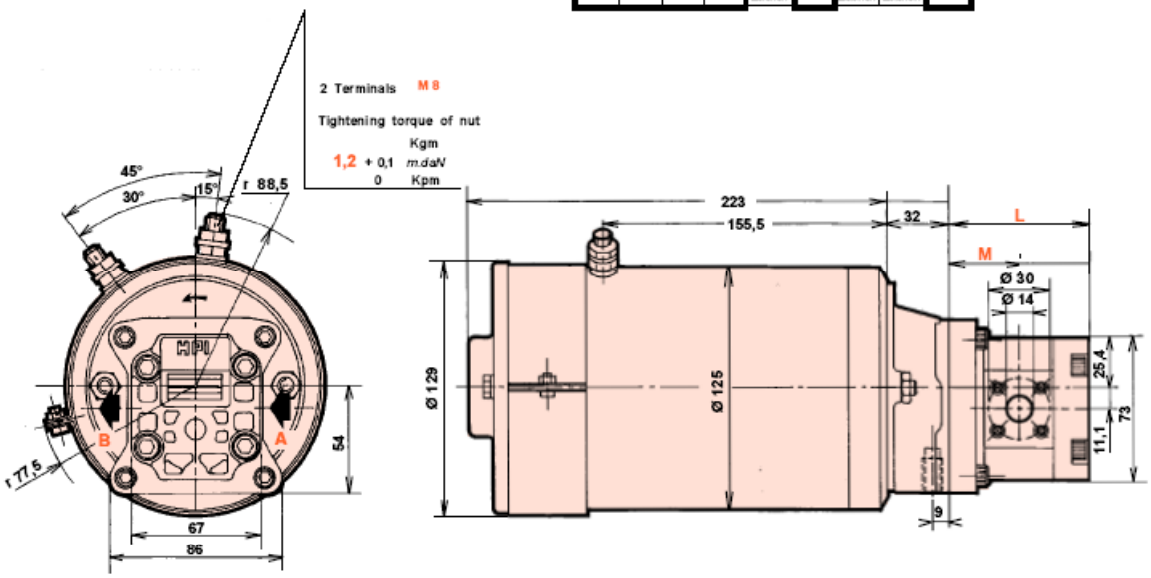
MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF MINI ELECTRO - PUMPS

MOTOR BL — 12 V : 2,1 kW / 24 V : 2,2 kW

CODIFICATION

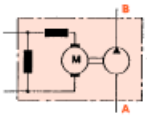
I	II	III	IV	V	VI	VII	VIII	IX
11	CI	2	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

(F.T R 0014)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	72,6
to 1004 à 1006 bis	40,7	82,4

SYMBOLS



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity - see data sheets F.T 10 089 2/3 - 3/3

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR D.C electric motor COMPOUND EXCITATION
Ref. : **24 V : 111 895**

Nominal power periodical and intermittent
Duty **S3** (10% of 10 min - CI : 15 %)
24 V : 3 kW
other duties, see curves on the reverse side
Protection (linking excepted) : IP 44
Standard VDE 530-1 and NF C 51 115

PUMP This electro pump unit is fitted with a Series 0 Pump Type : P 1 CBN 1000 C L 40 C15 of capacity : 1 - 2 - 3 - 4 - 5 - 6 *cc/rev*
see data sheet F.T 10 138

RELAY (OPTION) , see data sheet F.T 10 692

For CODIFICATION , see data sheet F.T R 0014
MASS of the electro pump unit : 13 Kg

MINI ELECTRO - PUMPS SERIES 1

DIRECT CURRENT **C I** 24 V : 3 kW COMPOUND

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	CI	2	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

(F.T R 0014)

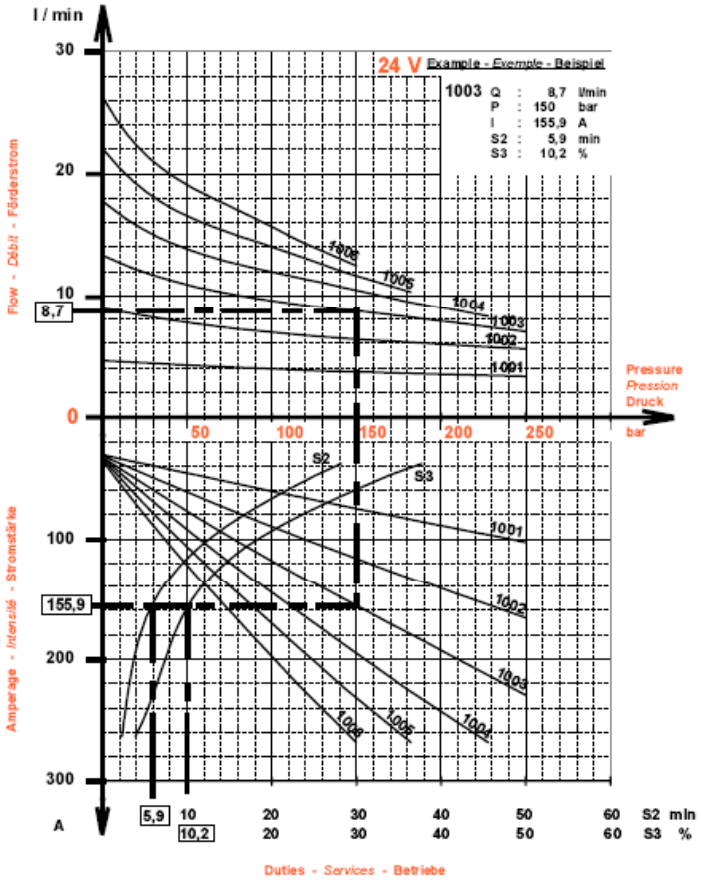
DIRECT CURRENT MOTOR
Energizing COMPOUND
NOMINAL POWER
S3 (15 % of 10 min)

3 kW

Reference
111 895

II	III
Sign Signe Zeichen	Sign Signe Zeichen
CI	2

Code



S1 : Continuous Duty
S2 : Temporary Duty (min)
S3 : Periodical Intermittent Duty (10% of 10 min)
S4a - S4b : Intermittent Starting Duty

P C : Critical Moment (min)
I D : Starting Amperage 24 V (CI - CL) : 900 Amp.

Curves drawn with
a constant tension : Oil SHELL Tellus T46
Viscosity 46 cSt (± 10%) at 40 °C

Test temperature : Oil 40 °C
Ambient 20 °C

Characteristics given as an indication

Reading example

ELECTRO - HYDRAULIC CHARACTERISTICS

MOTOR TYPE C I 24 V : 3 kW
COMPOUND

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	BL	Sign Signe Zeichen	C	Sign Signe Zeichen	T	Sign Signe Zeichen	XX	X

(F.T R 0014)

DIRECT CURRENT ELECTRIC MOTOR
ENERGIZING COMPOUND

References :	II Signe	III Signe
12 V : 109 523 / 109 589 *	BL	1
24 V : 109 524 / 109 571 *	BL	2

* with thermo-switch

PUMPS *POMPES* PUMPEN		12 V PRESSURE - *PRESSION* - DRUCK								24 V PRESSURE - *PRESSION* - DRUCK							
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI
1001	Q	4,5	3,8	3,3	2,9	2,7	2,5	2,3	2,15	4,5	4,2	3,8	3,5	3,4	3,3	3,2	3
	I	70	100	132	155	182	200	215	232	41	57	73	90	98	106	115	123
	S2	15	15	15	8,5	6,5	5	4	3,5	15	15	11,7	9	7,8	6,8	6,15	5,3
	S3	30	30	25	19	17	15	13	11	28,5	25	21,5	18	16,5	15	13,6	12
1002	Q	8	7	6	5,2	4,6	4,3	4	3,8	8,5	7,5	6,5	5,4	5	4,8	2,1	2
	I	76	125	180	235	262	292	320	350	47	73	102	130	145	159	174	187
	S2	15	15	6,5	3	2	1,2	0,8	0,3	15	11,7	7,5	4,6	3,6	2,6	1,9	1,3
	S3	30	28	17	10	7	5,5	4	2,5	60	60	54	16	9,5	7,6	5,9	4,3
1003	Q	10,6	9,6	7,6	6,5	5,9				12,9	11,5	9,8	8,3	7,6			
	I	90	162	244	327	366				51	90	133	175	198			
	S2	15	9	2,5	0,7	0,3				15	9,2	4,5	1,7	1			
	S3	30	20	9	3,5	1,5				27	18,4	11	5,6	3,7			
1004	Q	14,5	12	9,8						17,6	15,4	13					
	I	94	192	302						55	104	165					
	S2	15	5	1,2						15	7	2,4					
	S3	30	15,5	5,5						26	15,2	6,9					
1005	Q	18	14,2	6,1						20,8	18,2	15					
	I	96	215	348						15	122	193					
	S2	15	5	1,2						15	5,5	1,1					
	S3	30	15,5	5,5						24,5	12,5	3,8					
1006	Q	21,4	16							23,5	19,8						
	I	105	242							16	135						
	S2	15	3							14,5	4,15						
	S3	60	10							24,2	10,5						

Q — Flow in l / min — *Débit en l / min* — Fördermenge in l / min

I — Amperage — *Intensité en Ampères* — Stromstärke in Ampere

S1 — Permanent — *Permanent* — Dauerbetrieb

S2 — min

S3 — % (10 min)

Charts drawn with a constant tension

Oil SHELL Tellus T 46
Viscosity 46 cSt (± 10 %) at 40 °C
Test temperature : Oil 40 °C
Ambient 20 °C

MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF MINI ELECTRO - PUMPS

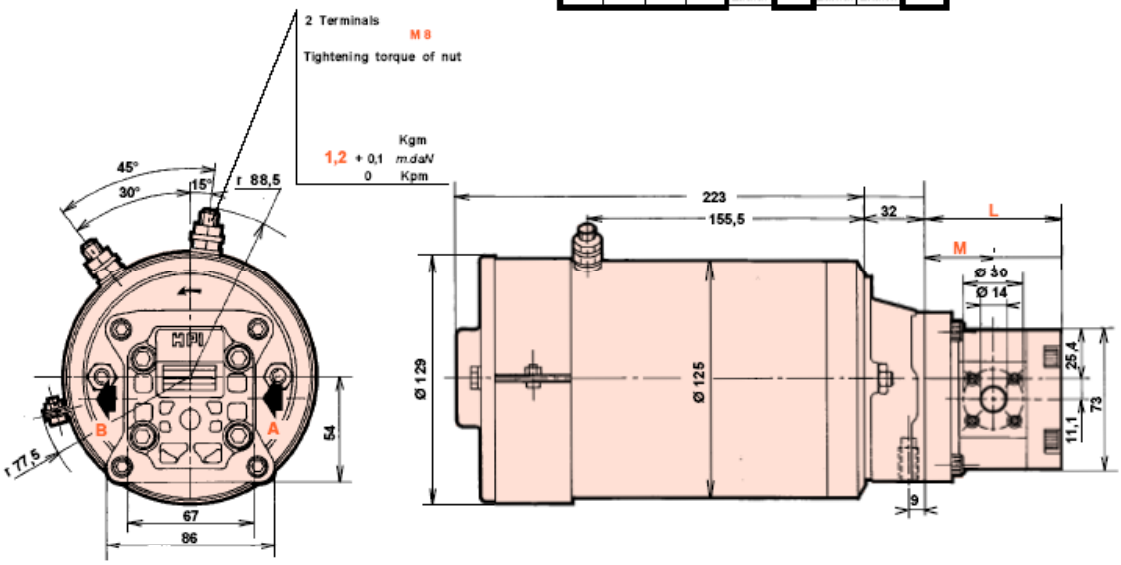
MOTOR

BL — 12 V : 2,1 kW
24 V : 2,2 kW

CODIFICATION

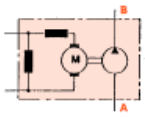
I	II	III	IV	V	VI	VII	VIII	IX
11	CI	2	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

(F.T R 0014)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	72,6
to 1004 à 1006 bis	40,7	82,4

SYMBOLS



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity - see data sheets F.T 10 089 2/3 - 3/3

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR D.C electric motor COMPOUND EXCITATION
Ref. : **24 V : 111 895**

Nominal power periodical and intermittent Duty **S3** (10% of 10 min - CI : 15 %)
24 V : 3 kW
other duties, see curves on the reverse side
Protection (linking excepted) : IP 44
Standard VDE 530-1 and NF C 51 115

PUMP This electro pump unit is fitted with a Series 0 Pump Type : P 1 CBN 1000 C L 40 C15 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet F.T 10 138

RELAY (OPTION) , see data sheet F.T 10 692

For CODIFICATION , see data sheet F.T R 0014
MASS of the electro pump unit : 13 Kg

MINI ELECTRO - PUMPS

SERIES 1 **DIRECT CURRENT** **C I** **24 V : 3 kW** **COMPOUND**

PUBLISHING 03 / 05 / 99

MNG | 011

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	CI	2	C	Sign Signe Zeichen	T	Sign Signe Zeichen	Sign Signe Zeichen	X

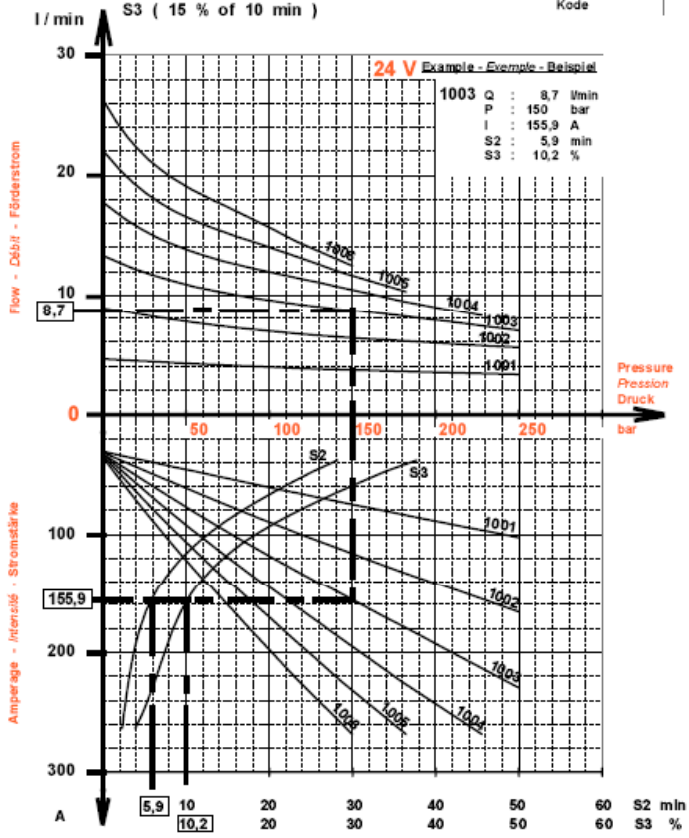
(F.T R 0014)

Reference
111 895

II	III
Sign Signe Zeichen	Sign Signe Zeichen
CI	2

DIRECT CURRENT MOTOR
Energizing COMPOUND
NOMINAL POWER
S3 (15 % of 10 min)
3 kW

Code Code Kode



Duties

S1 : Continuous Duty
S2 : Temporary Duty (min)
S3 : Periodical Intermittent Duty (10% of 10 min)
S4a - S4b : Intermittent Starting Duty

P C : Critical Moment (min)
I D : Starting Amperage 24 V (CI - CL) : 900 Amp.

Curves drawn with
a constant tension : Oil SHELL Tellus T46
Viscosity 46 cSt (± 10%) at 40 °C

Test temperature : Oil 40 °C
Ambient 20 °C

Characteristics given as an indication

Reading example

ELECTRO - HYDRAULIC CHARACTERISTICS

MOTOR TYPE **C I** **24 V : 3 kW** **COMPOUND**

PUBLISHING
27 / 04 / 2000

MNG | 012

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	CI	2	C	Sign *Signe* Zeichen	T	Sign *Signe* Zeichen	Sign *Signe* Zeichen	X

(F.T R 0014)

DIRECT CURRENT FAN MOTOR
ENERGIZING COMPOUND

Reference : 24 V : 111 895

PUMPS *POMPES* PUMPEN		PRESSURE - *PRESSION* - DRUCK							
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI
1001	Q	4,7	4,3	4	3,8	3,7	3,6	3,5	3,4
	I	40,9	52,5	65,2	77,9	84,3	90,8	97,3	104
	S2	15,4	13,7	12,2	11	10,4	9,9	9,4	9
	S3	42,6	38,4	34,6	31,4	30	28,7	27,4	26,1
1002	Q	9,1	7,9	7,1	6,5	6,3	6,1	5,9	5,7
	I	43	65,9	91,5	118,2	131,7	145,3	158,6	171,4
	S2	15,1	12,1	9,9	8,1	7,4	6,7	6,1	5,5
	S3	41,8	34,4	28,5	23,8	21,7	19,8	18,1	16,6
1003	Q	13,4	11,2	9,9	8,9	8,5	8,2	7,9	7,6
	I	45,2	79,8	120	160,7	179,9	197,8	214,7	231,6
	S2	14,7	10,8	8	6	5,2	4,5	3,9	3,4
	S3	40,9	31	23,5	17,8	15,6	13,8	12,1	10,6
1004	Q	17,7	14,3	12,3	10,9	10,4	9,9	9	
	I	46,6	93,8	149	199,9	222,7	247,2	280,7	
	S2	14,5	9,7	6,5	4,4	3,7	3	2,1	
	S3	40,4	28,1	19,3	13,5	11,4	9,3	6,7	
1005	Q	21,8	17	14,4	12,7	11,6			
	I	48,8	108,1	176	234,6	271,1			
	S2	14,2	8,7	5,3	3,3	2,3			
	S3	39,6	25,4	16,1	10,3	7,4			
1006	Q	25,8	19,6	16,4	13,4				
	I	51,4	123,7	202,3	285,4				
	S2	13,8	7,8	4,4	1,9				
	S3	38,8	22,9	13,3	6,3				

Q
Flow in l / min
Débit en l / min
Fördermenge in l / min

I
Amperage
Intensité en Ampères
Stromstärke in Ampere

S1 Permanent *Permanent* Dauerbetrieb

S2 min

S3 % (10 min)

Charts drawn with a constant tension

Oil SHELL Tellus T 46
Viscosity 46 cSt (± 10 %) at 40 °C
Test temperature : Oil 40 °C
Ambient 20 °C

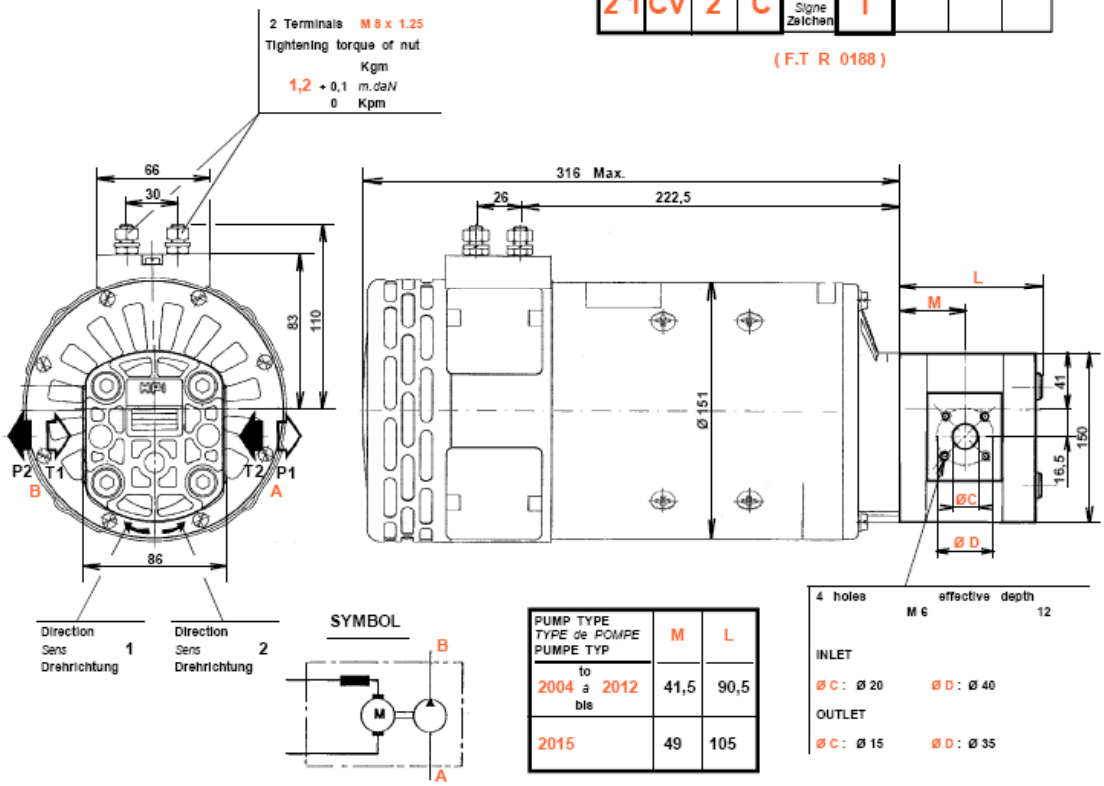
MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF MINI ELECTR - PUMPS

MOTOR **CI** **24 V : 3 kW COMPOUND**

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
2 1	CV	2	C	Sign Signe Zeichen	T			

(F.T R 0188)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 2004 a 2012 bis	41,5	90,5
2015	49	105

PERFORMANCES Characteristics of Flow - Rate - Pressure - Power - Intensity - see data shee F.T 20 693 2/3 - 3/3

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our technical departments

WORKING Horizontal or vertical position

ACCESSOIRES

MOTOR D.C FAN electric Motor SERIAL EXCITATION
Ref.: 24 V: 114 785 (Anti-Clockwise)
114 786 (Clockwise)

Nominal power Periodical and Intermittent Duty S3 30 % ED (S2 12 min)
24 V : 3 kW
other duties , see curves at the back
Protection (linking excepted) : IP 23
Standard NF EN 60 259

PUMP This electro pump unit is fitted with Series 2 Pumps Type : P * DUK 2000 C L 40 D 02 of capacity : 4 - 6 - 8 - 10 - 12 - 15 cc / rev
see data sheet F.T 20 296

RELAY (OPTION) , see data sheet F.T 00 039

For CODIFICATION , see data sheet F.T R 0014

MASSE of the electro pump set unit : 22 Kg

ELECTRO - PUMPS

SERIES 2 DIRECT CURRENT 24 V : 3 kW

References

114 785 Anti-clockwise

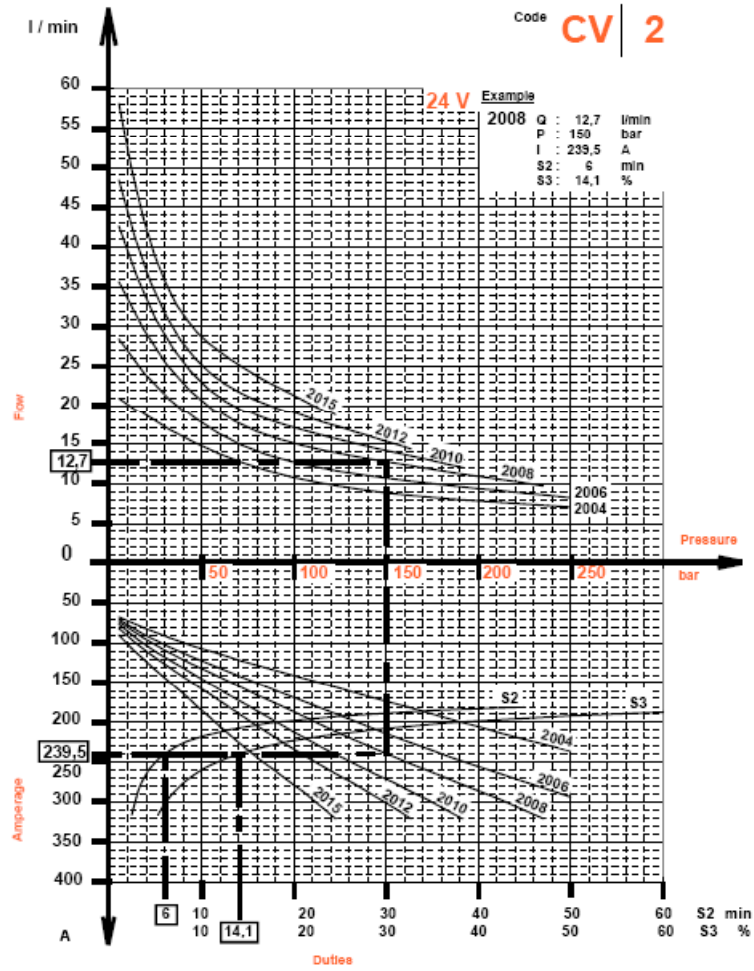
114 786 Clockwise

DC FAN ELECTRIC MOTOR
SERIAL EXCITATION
NOMINAL POWER
S3 50 %

3 kW

II	III
Sign Signe Zeichen	Sign Signe Zeichen

Code CV 2



S1 : Continuous Duty
S2 : Temporary Duty (min)
S3 : Periodical Intermittent Duty (10% of 10 min)
S4a - S4b : Intermittent Starting Duty

P C : Critical Moment (min)
I D : Starting Amperage 24 V (CI - CL) : 900 Amp.

Curves drawn with
a constant tension : Oil SHELL Tellus T46
Viscosity 46 cSt (± 10%) at 40 °C

Test temperature : Oil 40 °C
Ambient 20 °C

Characteristics given as an indication

Reading example

ELECTRO - HYDRAULIC CHARACTERISTICS

MOTOR TYPE 24 V : 3 kW

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
21	CV	2	C	Sign Signe Zeichen	T			

(F.T R 0188)

DIRECT CURRENT FAN MOTOR
SERIAL EXCITATION
24 V

References 114 785 Anti-clockwise

114 786 Clockwise

MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF ELECTRO PUMPS

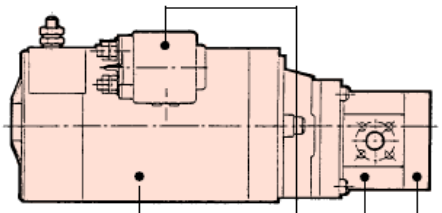
MOTOR CV 24 V : 3 kW

Q
Flow in l / min
Débit en l / min
Fördermenge in l / min

I
Amperage
Intensité en Ampères
Stromstärke in Ampere

S1 Permanent *Permanent* Dauerbetrieb
S2 min
S3 % (10 min)

PUMPS *POMPES* PUMPEN		PRESSURE - *PRESSION* - DRUCK								
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	125 bar 2175 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI
2004	Q	21,1	14,7	10,8	9,6	8,8	8,3	7,8	7,4	7,1
	I	67	106,7	140,9	157	173,3	189,5	205,6	221,2	236,1
	S2	60	60	60	60	60	27,9	14,5	9,1	6,4
	S3	100	100	100	100	100	54	31,5	20,8	15
2006	Q	28,5	17,6	12,7	11,5	10,7	10	9,4	8,8	8,2
	I	70,4	122,3	168,5	191,5	214,1	235,4	255,3	274,4	294
	S2	60	60	60	25,5	11	6,5	4,6	3,5	2,9
	S3	100	100	100	50,2	24,9	15,2	10,7	8,2	6,5
2008	Q	35,6	20,7	15	13,7	12,7	11,8	10,9	10	235 bar maxi
	I	73,2	132,2	187,1	214,1	239,5	262,9	285,8	310,5	
	S2	60	60	31,5	11	6	4,1	3,1	2,5	
	S3	100	100	59,4	24,8	14,1	9,5	7,1	5,5	
2010	Q	42,6	23	17	15,5	14,1	12,9	190 bar maxi		
	I	76,2	145,2	212,2	243,1	271,5	300,4			
	S2	60	60	11,7	5,6	3,7	2,7			
	S3	100	100	26,2	13,2	8,5	6,1			
2012	Q	48,4	25,2	19	17	15,3	160 bar maxi			
	I	81,3	157,6	234,1	267,6	301,2				
	S2	60	60	6,7	3,8	2,7				
	S3	100	100	15,7	8,9	6				
2015	Q	58	28,8	21,4	120 bar maxi					
	I	89,8	184,7	278,7						
	S2	60	35,6	3,4						
	S3	100	65,2	7,7						



For Mini electro - pump sets with pressure relief valve : specify the required seting full flow of by-pass .

1 1	BL	1	C	4 T	R	XX	X	100
I Sign	II Sign	III Sign	IV Sign	V VI Sign	VII Sign	VIII Sign	IX Sign	

PUMP TYPE

Series 1

GENERATION 1

MOTOR TYPE

	12 Volts	24 Volts	
Direct Current (S3 10 % of 10 min)	1,3 kW	1,5 kW	DI
	1,5 kW	1,8 kW	BI
	2,1 kW	2,2 kW	BL
		3 kW	CI
(S3 16 % ED - S2 6 min)		3 kW	CV
Special Motor			**
without Motor			XX

VOLTAGE

12 Volts =	1
24 Volts =	2
Special voltage	*
without Motor	X

CURRENT ◉

Direct	C
without Motor	X

PUMP CAPACITY

1 cc / rev	0,06 cubic / inch	1
2 cc / rev	0,12 cubic / inch	2
3 cc / rev	0,18 cubic / inch	3
4 cc / rev	0,24 cubic / inch	4
5 cc / rev	0,30 cubic / inch	5
6 cc / rev	0,36 cubic / inch	6

X without tank

DECOMPRESSION DEVICE

XX	without decompression
10	High pressure relief valve (adjustable) internal return
11	High pressure relief valve (adjustable) external return
12 ●	Low pressure relief valve internal return
13 ●	Low pressure relief valve external return

RELAY (Mounting with braid)

X	without Relay
R	with Relay (≤ 150 Amp.)
S	with Relay (≥ 150 Amp.)

TYPE of SHAFTS

T Tang

◉ Motor with thermo-switch : consult out technical departments

● Low pressure relief valve consult our technical departments

CODIFICATION OF MINI - ELECTRO - PUMP SETS

DIRECT CURRENT VERSION 1G SERIES 1

MINI ELECTRO PUMPS.

ALTERNATING CURRENT

Three - Phase

Type *Type* Typ	Power *Puissance* Leistung kW	
	S1	S3
80	0,95	1,5 1,7 2,3
90	1,50	3,5 4,4

Singlephase

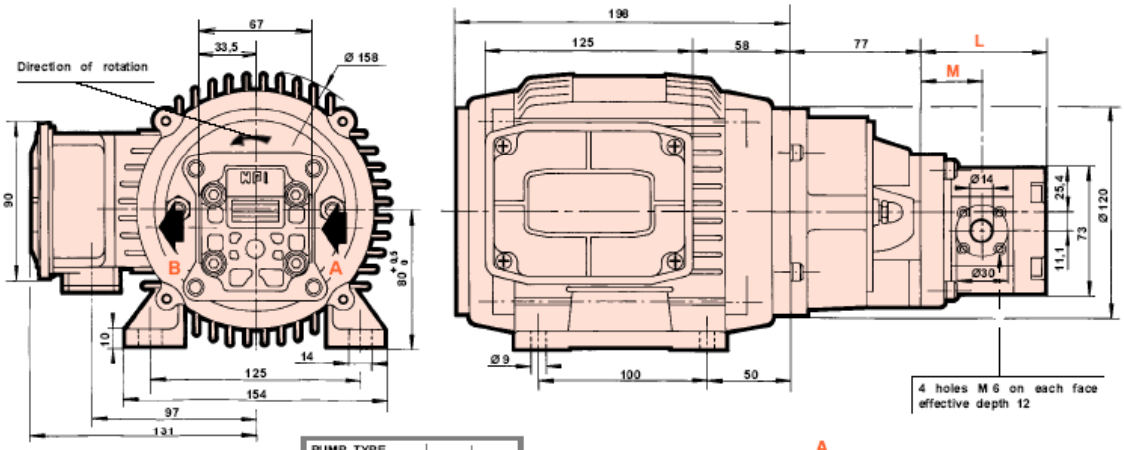
Type *Type* Typ	Power *Puissance* Leistung kW
	S1
80	0,75

Exploded view

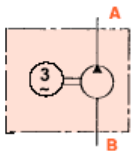
CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	P*	Sign Signe Zeichen	T	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	71,8
to 1004 à 1006 bis	40,7	81,5



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity see curves on the reverse side

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR Three - Phase 50 Hz and 60 Hz - Voltage 230 / 400 V - Insulation class F - Heating 80 °C - Protection of motor : Tight to water pipe and to fine dusts IP 55 - Tropicalized on requiest - Motor in accordance with the BRITISH STANDARD BS 4999

PUMP This electro pump unit is fitted with a Series 1 Pump Type : P 1 CBN 1000 C L 20 C01 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet F.T 10 138

For CODIFICATION , see data sheet F.T R 0182

MASS of the electro pump unit : 12,3 to 13,9 Kg

MINI ELECTRO - PUMPS

SERIES 1 THREE-PHASE TYPE 80 DUTY S3

CODIFICATION
CODIFICATION
BEZEICHNUNG

I	II	III	IV	V	VI	VII	VIII	IX
11	P*	Sign *Signe* Zeichen	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

Concerned Motors are Dimensions are in accordance with the BRITISH STANDARD BS 4999 -

Characteristics of the following tables are available for voltages 220 / 380 V - THREE - PHASE 50 Hz and 60 Hz - Insulation class F - Heating 80 °C -

Protection of Motors : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request -

For Pumps charactéristics , see Data sheet F.T 10 138

The Max. pressure is indicated at max. flow - speed of the Motor under load - Oil viscosity 46 cSt (5,6 °E)

MINI ELECTRO - PUMPS

SERIES 1 THREE-PHASE TYPE 80 DUTY S3

II Sign *Signe* Zeichen	Voltage *Tension* Spannung III Sign *Signe* Zeichen	Ref.	Speed *Vitesse* Drehzahl rev / min *t / min* U / min	Power *Puissance* Leistung kW	Duty *Service* E.D	Frequency *Frequence* Frequenz Hz	NB *Nota* Nota	Mass *Masse* Masse Kg
PE	6	112 424	3000	1,70	S3	50	not cooled - *Non ventilé* - nicht belüftet	11,1
PF	6	112 114	3000	2,30	S3	50	not cooled - *Non ventilé* - nicht belüftet	10,9

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	PE	6	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

PUMPS *POMPES* PUMPEN		PRESSURE - *PRESSION* - DRUCK DUTIES - *SERVICES* - E.D. NOISE - *BRUIT* - SCHALLDRUCK										
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	125 bar 1810 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	275 bar 3990 PSI	300 bar 4350 PSI
1001	Q	3,05	3,02	3,00	2,97	2,94	2,90	2,85	2,80	2,75	2,70	
	I	2,00	2,05	2,25	2,37	2,50	2,65	2,80	3,00	3,20	3,45	
	S3	50	50	40	32	25	20	16	14	12	10	
	dBa	55	57	57	58	58	58	59	59	60	60	
1002	Q	6,15	6,05	5,90	5,80							
	I	2,00	2,15	2,80	3,20							
	S3	50	36	13	10							
	dBa	57	59	59	60							
1003	Q	9,20	9,00									
	I	2,00	2,50									
	S3	50	21									
	dBa	59	61									
1004	Q	12,25	11,90									
	I	2,00	2,85									
	S3	50	14									
	dBa	61	63									
1005	Q	15,30	14,70									
	I	2,00	3,25									
	S3	50	10									
	dBa	63	65									
1006	Q	15,30										
	I	2,00										
	S3	50										
	dBa	63										

Q
Flow in l / min
Débit en l / min
Fördermenge in l / min

I
Amperage
Intensité en Ampères
Stromstärke in Ampere

DUTIES
SERVICES
E.D
S3 % (10 min)

dBa
Noise at 1 meter
Bruit à 1 mètre
Schalldruck bei
1 Meter Abstand

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	PF	6	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

PUMPS *POMPES* PUMPEN		PRESSURE - *PRESSION* - DRUCK DUTIES - *SERVICES* - E.D. NOISE - *BRUIT* - SCHALLDRUCK										
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	125 bar 1810 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	275 bar 3990 PSI	300 bar 4350 PSI
1001	Q	3,05	3,02	3,00	2,97	2,94	2,90	2,88	2,85	2,80	2,75	2,70
	I	2,30	2,45	2,70	2,80	2,90	3,05	3,20	3,40	3,60	3,80	4,00
	S3	50	50	50	50	50	35	30	26	22	18	16
	dBa	56	58	58	59	59	59	60	60	61	61	62
1002	Q	6,15	6,08	6,00	5,90	5,80	5,70					
	I	2,30	2,65	3,20	3,60	4,00	4,40					
	S3	50	50	24	19	14	10					
	dBa	58	60	60	61	62	62					
1003	Q	9,20	9,05	8,80								
	I	2,30	3,00	4,00								
	S3	50	36	12								
	dBa	60	62	63								
1004	Q	12,25	12,00									
	I	2,30	3,25									
	S3	50	26									
	dBa	62	64									
1005	Q	15,30	14,90									
	I	2,35	3,70									
	S3	50	19									
	dBa	64	66									
1006	Q	18,40	17,60									
	I	2,35	4,10									
	S3	50	15									
	dBa	66	67									

Q
Flow in l / min
Débit en l / min
Fördermenge in l / min

I
Amperage
Intensité en Ampères
Stromstärke in Ampere

DUTIES
SERVICES
E.D
S3 % (10 min)

dBa
Noise at 1 meter
Bruit à 1 mètre
Schalldruck bei
1 Meter Abstand

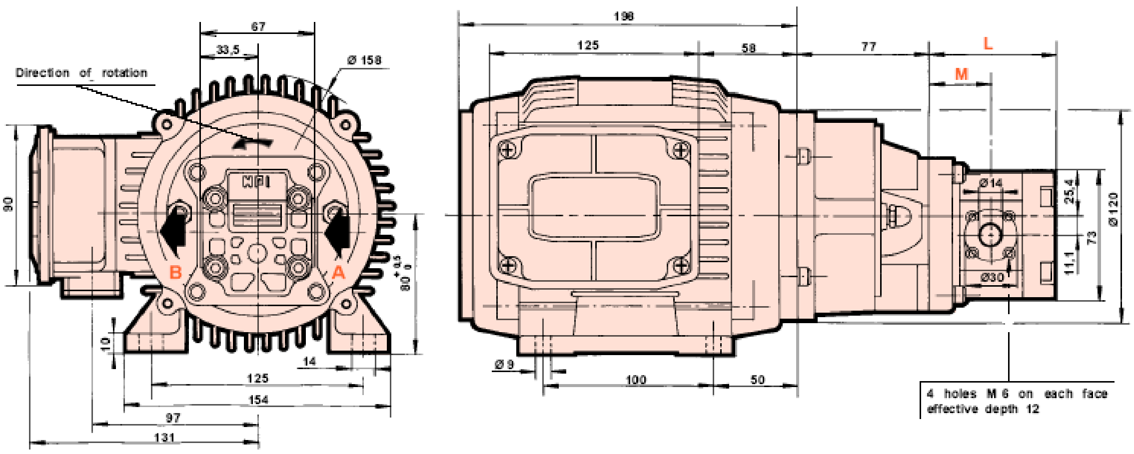
MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF MINI ELECTRO - PUMPS

inter fluid

CODIFICATION

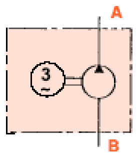
I	II	III	IV	V	VI	VII	VIII	IX
11	PD	7	T	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
1001 to à bis 1003	35,9	71,8
1004 to à bis 1006	40,7	81,5

SYMBOL



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity see curves on the reverse side

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10W 30
For any other fluid, please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR Three - Phase 50 Hz and 60 Hz - Voltage 230 / 400 V - Insulation class F - Heating 80 °C - Protection of motor: Tight to water pipe and to fine dusts IP 55 - Tropicalized on requiest - Motor in accordance with the BRITISH STANDARD BS 4999

PUMP This electro pump unit is fitted with a Series 1 Pump Type : P 1 CBN 1000 C L 20 C01 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet **F.T 10 138**

For CODIFICATION, see data sheet **F.T R 0182**

MASS of the electro pump unit : 12,3 to 13,9 Kg

MINI ELECTRO - PUMPS

SERIES **1** THREE-PHASE TYPE **80** DUTY **S3**

HPI

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	PD	7	T	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)

Concerned Motors are Dimensions are in accordance with the BRITISH STANDARD BS 4999 -

Characteristics of the following tables are available for voltages 220 / 380 V - THREE - PHASE 50 Hz and 60 Hz - Insulation class F - Heating 80 °C -

Protection of Motors : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request -

For Pumps charactéristics , see Data sheet F.T 10 138

The Max. pressure is indicated at max. flow-speed of the Motor under load - Oil viscosity 46 cSt (5,6 °E)

MINI ELECTRO - PUMPS

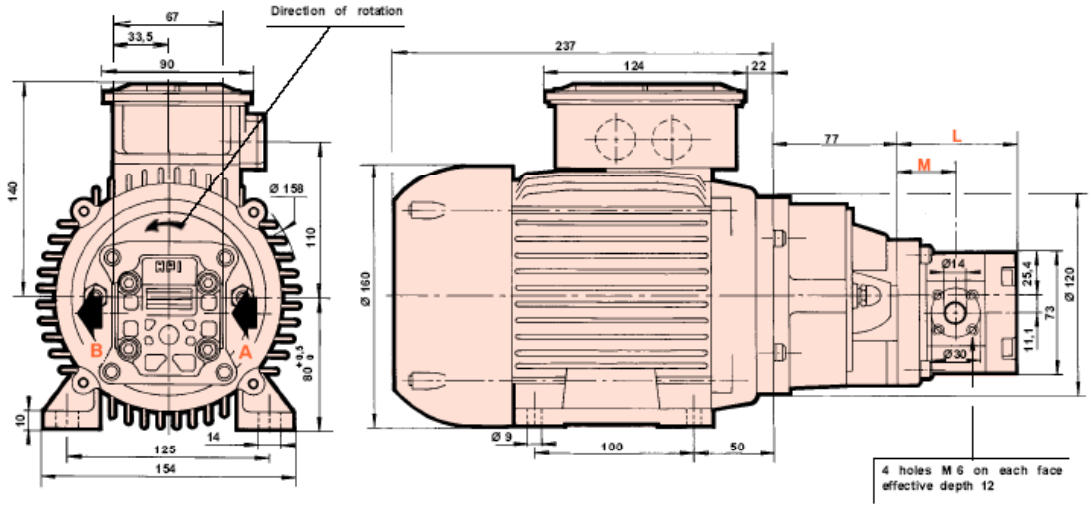
SERIES 1 THREE-PHASE TYPE 80 DUTY S3

II Sign Signe Zeichen	III Voltage Tension Spannung Sign Signe Zeichen	Ref.	Speed Vitesse Drehzahl rev / min t / min U / min	Power Puissance Leistung kW	Duty Service E.D	Frequency Frequence Frequenz Hz	NB Nota Nota	Mass Masse Masse Kg
PD	7	112 442	3600	1,50	S3	60	not cooled - Non ventilé - nicht belüftet	11,1

CODIFICATION

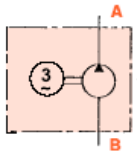
I	II	III	IV	V	VI	VII	VIII	IX
11	PC	6	T	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	71,8
to 1004 à 1006 bis	40,7	81,5

SYMBOL



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity see curves on the reverse side

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR Three - Phase 50 Hz -
Voltage 230 / 400 V -
Insulation class F - Heating 80 °C -
Protection of motor : Tight to water pipe and to fine dusts IP 55 -
Tropicalized on requiest -
Motor in accordance with the BRITISH STANDARD BS 4999

PUMP This electro pump unit is fitted with a Series 1 Pump Type : P 1 CBN 1000 C L 20 C01 of capacity : 1 - 2 - 3 - 4 - 5 - 6 *cc/rev*
see data sheet F.T 10 138

For CODIFICATION , see data sheet F.T R 0182

MASS of the electro pump unit : 13,6 Kg

MINI ELECTRO - PUMPS

SERIES 1 THREE-PHASE TYPE 80 DUTY S1

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	PC	6	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

Concerned Motors are Dimensions are in accordance with the BRITISH STANDARD BS 4999 -

Characteristics of the following tables are available for voltages 230 / 400 V - THREE - PHASE 50 Hz - Insulation class F - Heating 80 °C -

Protection of Motors : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request -

For Pumps charactéristics , see Data sheet F.T 10 138

The Max. pressure is indicated at max. flow - speed of the Motor under load - Oil viscosity 46 cSt (5,6 °E)

MINI ELECTRO - PUMPS

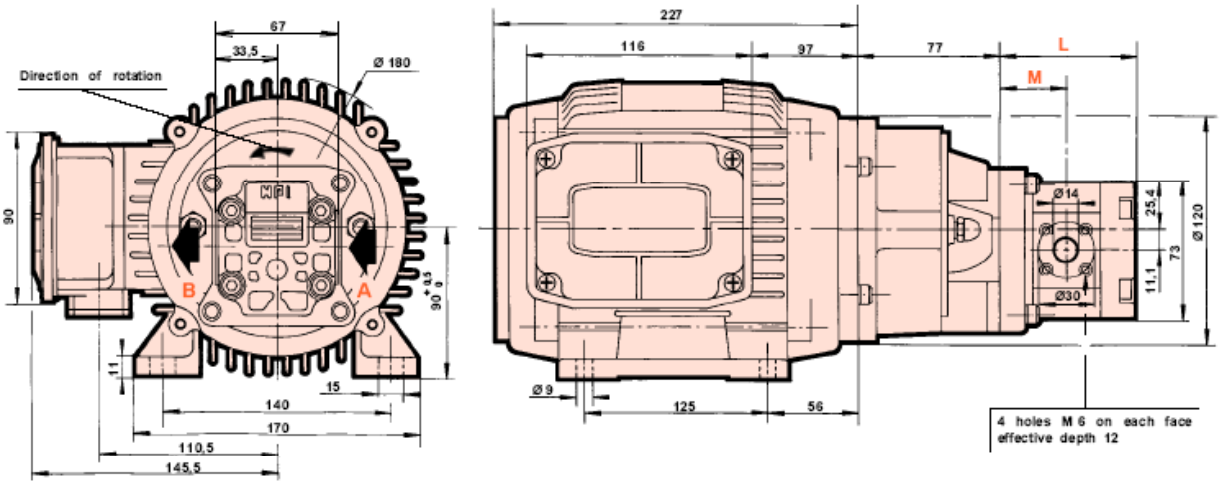
SERIES 1 THREE-PHASE TYPE 80 DUTY S1

II Sign *Signe* Zeichen	III Voltage *Tension* Spannung Sign *Signe* Zeichen	Ref.	Speed *Vitesse* Drehzahl rev / min *t / min* U / min	Power *Puissance* Leistung kW	Duty *Service* E.D	Frequency *Frequence* Frequenz Hz	NB *Nota* Nota	Mass *Masse* Masse Kg
PC	6	*112 486*	*1500*	*0,95*	*S1*	*50*	air cooled - *Ventilé* - belüftet	*10,6*

CODIFICATION

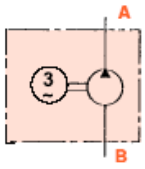
I	II	III	IV	V	VI	VII	VIII	IX
11	R*	Sign Signe Zeichen	T	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	71,8
to 1004 à 1006 bis	40,7	81,5

SYMBOL



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity see curves on the reverse side

working **TEMPERATURE** from -15°C to + 80°C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR Three-Phase 50 Hz - Voltage 230 / 400 V - Insulation class F - Heating 80°C - Protection of motor : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request - Motor in accordance with the BRITISH STANDARD BS 4999

PUMP This electro pump unit is fitted with a Series 1 Pump Type : P 1 CBN 1000 C L 20 C01 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet F.T 10 138

For CODIFICATION , see data sheet F.T R 0182

MASS of the electro pump unit : 18,7 to 19 Kg

MINI ELECTRO - PUMPS

SERIES 1 THREE-PHASE TYPE 90 DUTY S3

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	R*	6	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

Concerned Motors are Dimensions are in accordance with the BRITISH STANDARD BS 4999 -

Characteristics of the following tables are available for voltages 230 / 400 V - THREE - PHASE 50 Hz - Insulation class F - Heating 80 °C -

Protection of Motors : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request -

For Pumps charactéristics , see Data sheet F.T 10 138

The Max. pressure is indicated at max. flow-speed of the Motor under load - Oil viscosity 46 cSt (5,6 °E)

MINI ELECTRO - PUMPS

SERIES 1 THREE-PHASE TYPE 90 DUTY S3

II Sign *Signe* Zeichen	Voltage *Tension* Spannung III Sign *Signe* Zeichen	Ref.	Speed *Vitesse* Drehzahl rev / min *t / min* U / min	Power *Puissance* Leistung kW	Duty *Service* E.D	Frequency *Frequence* Frequenz Hz	NB *Nota* Nota	Mass *Masse* Masse Kg
RC	6	112 272	3000	3,50	S3	50	not cooled - *Non ventilé* - nicht belüftet	15,7
RD	6	112 425	3000	4,40	S3	50	not cooled - *Non ventilé* - nicht belüftet	16

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	RC	6	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

PUMPS *POMPES* PUMPEN		PRESSURE - *PRESSION* - DRUCK DUTIES - *SERVICES* - E.D. NOISE - *BRUIT* - SCHALLDRUCK										
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	125 bar 1810 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	275 bar 3990 PSI	300 bar 4350 PSI
1001	Q	3,05	3,02	3,00	2,97	2,94	2,90	2,88	2,86	2,84	2,82	2,80
	I	3,00	3,20	3,30	3,40	3,50	3,60	3,80	4,00	4,20	4,40	4,60
	S3	50	50	50	50	50	50	48	44	40	36	33
	dBa	57	59	59	60	60	60	61	61	62	62	63
1002	Q	6,15	6,10	6,00	5,95	5,95	5,95	5,80	5,70	5,60	5,40	
	I	3,00	3,35	3,80	4,15	4,50	4,80	5,10	5,55	6,00	6,50	
	S3	50	50	42	37	29	23	20	17	14	11	
	dBa	59	61	61	62	63	63	64	64	65	65	
1003	Q	9,20	9,10	9,00	8,90	8,80	8,70					
	I	3,00	3,60	4,50	5,15	5,80	6,50					
	S3	50	50	27	20	15	12					
	dBa	61	63	64	64	65	65					
1004	Q	12,25	11,90	11,50	11,20							
	I	3,05	3,90	5,00	5,95							
	S3	50	45	18	12							
	dBa	63	65	66	67							
1005	Q	15,30	14,80	14,40								
	I	3,05	4,30	6,40								
	S3	50	37	12								
	dBa	65	67	68								
1006	Q	18,40	17,60									
	I	3,05	4,70									
	S3	50	32									
	dBa	67	68									

Q
Flow in l / min
Débit en l / min
Fördermenge in l / min

I
Amperage
Intensité en Ampères
Stromstärke in Ampere

DUTIES
SERVICES
E.D
S3 % (10 min)

dBa
Noise at 1 meter
Bruit à 1 mètre
Schalldruck bei
1 Meter Abstand

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	RD	6	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

PUMPS *POMPES* PUMPEN		PRESSURE - *PRESSION* - DRUCK DUTIES - *SERVICES* - E.D. NOISE - *BRUIT* - SCHALLDRUCK										
		5 bar 72 PSI	50 bar 725 PSI	100 bar 1450 PSI	125 bar 1810 PSI	150 bar 2175 PSI	175 bar 2540 PSI	200 bar 2900 PSI	225 bar 3260 PSI	250 bar 3630 PSI	275 bar 3990 PSI	300 bar 4350 PSI
1001	Q	3,05	3,02	3,00	2,97	2,94	2,90	2,88	2,86	2,84	2,82	2,80
	I	5,90	5,95	6,00	6,02	6,05	6,08	6,12	6,18	6,25	6,32	6,40
	S3	50	50	50	50	50	50	50	48	45	40	40
	dBa	58	60	60	61	61	61	62	62	63	63	63
1002	Q	6,15	6,10	6,00	5,95	5,90	5,85	5,80	5,75	5,70	5,50	5,40
	I	5,90	6,00	6,10	6,30	6,50	6,70	6,90	7,20	7,60	7,90	8,20
	S3	50	50	46	41	34	30	26	21	17	34	30
	dBa	60	62	62	63	64	64	65	65	66	64	64
1003	Q	9,20	9,10	9,00	8,95	8,90	8,80	8,70	8,60	8,50		
	I	5,90	6,05	6,50	6,85	7,25	7,80	8,40	9,00	9,60		
	S3	50	50	32	26	18	15	13	11	10		
	dBa	62	64	65	65	66	66	67	68	68		
1004	Q	12,25	12,10	12,00	11,90	11,80	11,70					
	I	5,90	6,15	6,90	7,50	8,20	9,00					
	S3	50	48	24	16	12	10					
	dBa	64	66	67	68	68	69					
1005	Q	15,30	15,00	14,80	14,70	14,60						
	I	5,90	6,30	7,60	8,70	9,80						
	S3	50	41	16	12	10						
	dBa	66	68	69	69	70						
1006	Q	18,40	18,00	17,70	17,50							
	I	5,90	6,50	8,30	9,50							
	S3	50	36	12	10							
	dBa	68	69	70	70							

Q
Flow in l / min
Débit en l / min
Fördermenge in l / min

I
Amperage
Intensité en Ampères
Stromstärke in Ampere

DUTIES
SERVICES
E.D
S3 % (10 min)

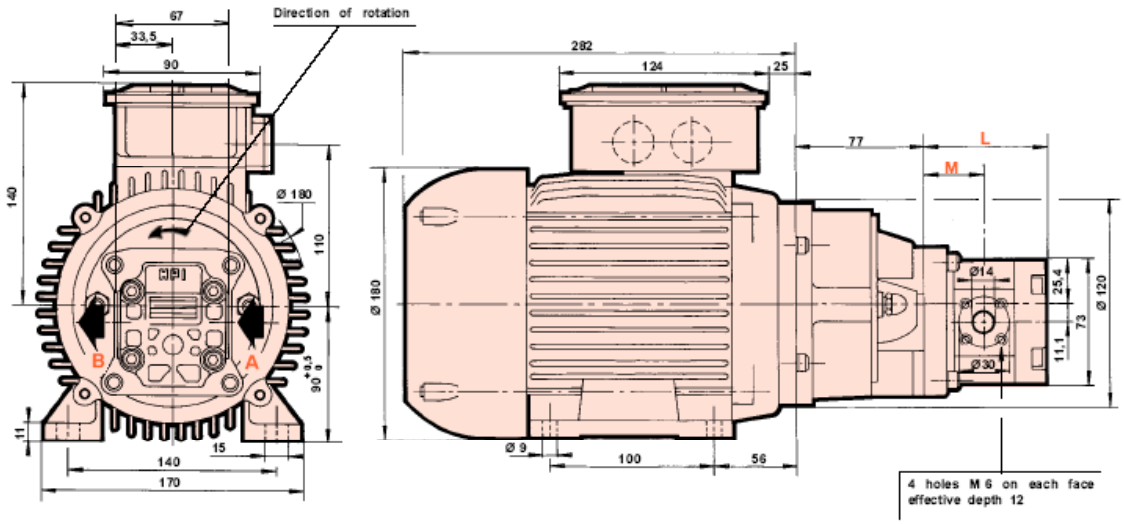
dBa
Noise at 1 meter
Bruit à 1 mètre
Schalldruck bei
1 Meter Abstand

MAIN ELECTRO - HYDRAULIC CHARACTERISTICS OF MINI ELECTRO - PUMPS

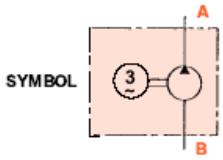
CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	R*	Sign *Signe* Zeichen	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	71,8
to 1004 à 1006 bis	40,7	81,5



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity see curves on the reverse side

working **TEMPERATURE** from -15°C to + 80°C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR Three-Phase 50 Hz - Voltage 230 / 400 V - Insulation class F - Heating 80°C - Protection of motor : Tight to water pipe and to fine dusts IP 55 - Tropicalized on requiest - Motor in accordance with the BRITISH STANDARD BS 4999

PUMP This electro pump unit is fitted with a Series 1 Pump Type : P 1 CBN 1000 C L 20 C01 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet F.T 10 138

For CODIFICATION , see data sheet F.T R 0182

MASS of the electro pump unit : 15,7 to 19 Kg

MINI ELECTRO - PUMPS

SERIES 1 THREE-PHASE TYPE 90 DUTY S1

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	R*	6	T	Sign *Signe* Zeichen	C	X	Sign *Signe* Zeichen	X

(F.T R 0182)

Concerned Motors are Dimensions are in accordance with the BRITISH STANDARD BS 4999 -

Characteristics of the following tables are available for voltages 230 / 400 V - THREE - PHASE 50 Hz - Insulation class F - Heating 80 °C -

Protection of Motors : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request -

For Pumps charactéristics , see Data sheet F.T 10 138

The Max. pressure is indicated at max. flow - speed of the Motor under load - Oil viscosity 46 cSt (5,6 °E)

MINI ELECTRO - PUMPS

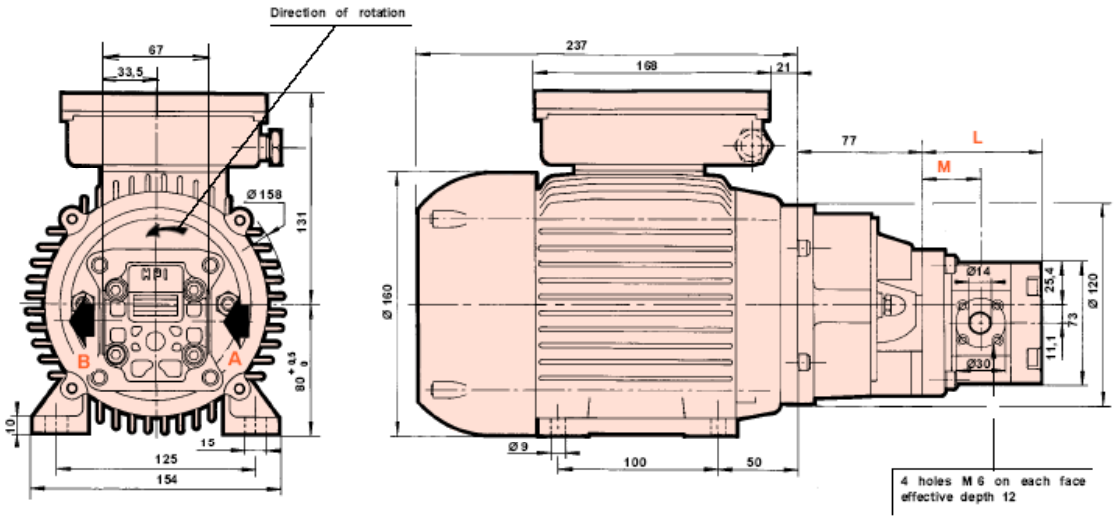
SERIES 1 THREE-PHASE TYPE 90 DUTY S1

II Sign *Signe* Zeichen	Voltage *Tension* Spannung III Sign *Signe* Zeichen	Ref.	Speed *Vitesse* Drehzahl rev / min *t / min* U / min	Power *Puissance* Leistung kW	Duty *Service* E.D	Frequency *Frequence* Frequenz Hz	NB *Nota* Nota	Mass *Masse* Masse Kg
RA	6	*112 487*	*1500*	*1,50*	*S1*	*50*	air cooled - *Ventilé* - belüftet	*16*
RB	6	*112 433*	*3000*	*1,50*	*S1*	*50*	air cooled - *Ventilé* - belüftet	*12,7*

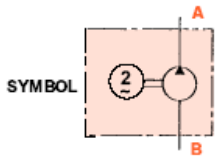
CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	Sign Signe Zeichen	Sign Signe Zeichen	M	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	71,8
to 1004 à 1006 bis	40,7	81,5



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity see curves on the reverse side

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR Singlephase 50 and 60 Hz - Voltage 110 and 230 V - Insulation class F - Heating 80 °C - Protection of motor : Tight to water pipe and to fine dusts IP 55 - Tropicalized on requiest - Motor in accordance with the BRITISH STANDARD BS 4999

PUMP This electro pump unit is fitted with a Series 1 Pump Type : P 1 CBN 1000 C L 20 C01 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet F.T 10 138

For CODIFICATION , see data sheet F.T R 0182

MASS of the electro pump unit : 14 to 15 Kg

MINI ELECTRO - PUMPS

SERIES 1 SINGLEPHASE TYPE 80 DUTY S1

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	P*	Sign Signe Zeichen	M	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)

Concerned Motors are Dimensions are in accordance with the BRITISH STANDARD BS 4999 -

Characteristics of the following tables are available for voltages 220 / 380 V - SINGLEPHASE 50 Hz and 60 Hz - Insulation class F - Heating 80 °C -

Protection of Motors : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request -

For Pumps charactéristics , see Data sheet F.T 10 138

The Max. pressure is indicated at max. flow - speed of the Motor under load - Oil viscosity 46 cSt (5,6 °E)

MINI ELECTRO - PUMPS

SERIES 1 SINGLEPHASE TYPE 80 DUTY S1

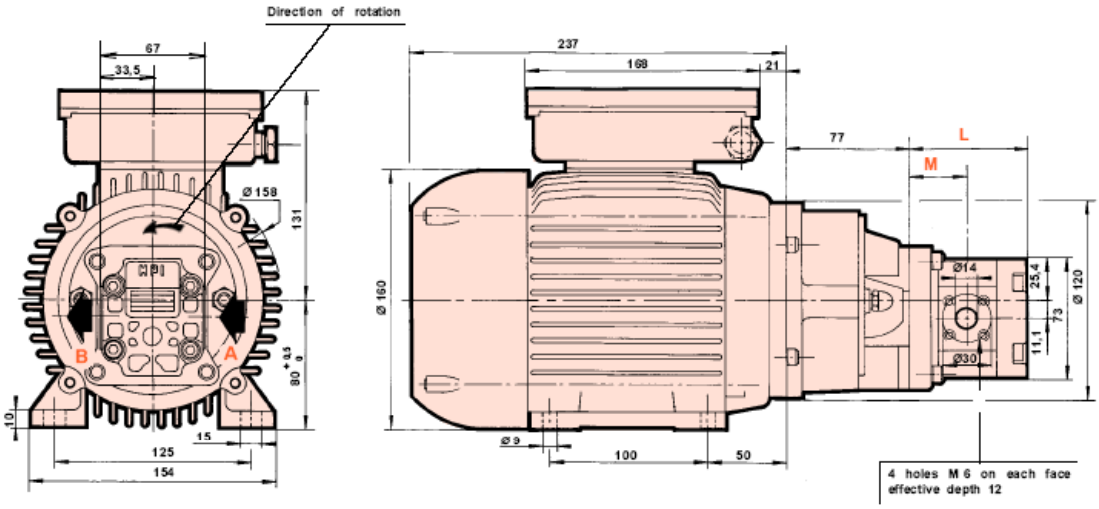
CODE / *CODE* / KODE	VOLTAGE / *TENSION* / SPANNUNG	MOTOR REFERENCE / *REFERENCE MOTEUR* / MOTOR REFERENZ	SPEED rev / min / *VITESSE t / min* / DREHZAHL U / min	POWER kW / *PUISSANCE kW* / LEISTUNG kW	DUTY / *SERVICE* / E.D	CONDENSER Starting / Permanent / *CONDENSATEUR Démarrage / Permanent* / KONDENSATOR Anlauf / Permanent	NOTA / *NOTA* / NOTA	MASSE Kg / *MASSE Kg* / MASSE Kg
PA 9	220/230	112 437	3000	0,75	S1	25 µF / 16 µF	V	11
PB 5	110/115	112 438	3600	0,75	S1	80 µF	V	11,4

PB 5 approuved UL V Cooled

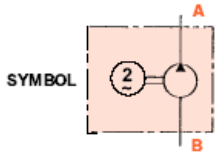
CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	Sign Signe Zeichen	Sign Signe Zeichen	M	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)



PUMP TYPE *TYPE de POMPE* PUMPE TYP	M	L
to 1001 à 1003 bis	35,9	71,8
to 1004 à 1006 bis	40,7	81,5



PERFORMANCES Characteristics of Flow - Pressure - Power - Intensity see curves on the reverse side

working **TEMPERATURE** from - 15 °C to + 80 °C

FLUID Mineral hydraulic oil I.S.O VG 27 to 68 cSt
Motor oil SAE 10 W 30
For any other fluid , please consult our Technical Departments

WORKING Horizontal or vertical position

ACCESSORIES

MOTOR Singlephase 50 and 60 Hz - Voltage 110 and 230 V - Insulation class F - Heating 80 °C - Protection of motor : Tight to water pipe and to fine dusts IP 55 - Tropicalized on requiest - Motor in accordance with the BRITISH STANDARD BS 4999

PUMP This electro pump unit is fitted with a Series 1 Pump Type : P 1 CBN 1000 C L 20 C01 of capacity : 1 - 2 - 3 - 4 - 5 - 6 cc/rev
see data sheet F.T 10 138

For CODIFICATION , see data sheet F.T R 0182

MASS of the electro pump unit : 14 to 15 Kg

MINI ELECTRO - PUMPS

SERIES 1 SINGLEPHASE TYPE 80 DUTY S1

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX
11	P*	Sign Signe Zeichen	M	Sign Signe Zeichen	C	X	Sign Signe Zeichen	X

(F.T R 0182)

Concerned Motors are Dimensions are in accordance with the BRITISH STANDARD BS 4999 -

Characteristics of the following tables are available for voltages 220 / 380 V - SINGLEPHASE 50 Hz and 60 Hz - Insulation class F - Heating 80 °C -

Protection of Motors : Tight to water pipe and to fine dusts IP 55 - Tropicalized on request -

For Pumps charactéristics , see Data sheet F.T 10 138

The Max. pressure is indicated at max. flow - speed of the Motor under load - Oil viscosity 46 cSt (5,6 °E)

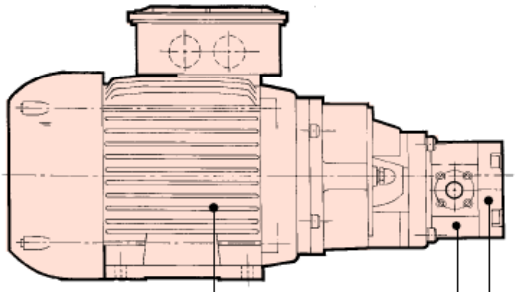
MINI ELECTRO - PUMPS

SERIES 1 SINGLEPHASE TYPE 80 DUTY S1

CODE	VOLTAGE	MOTOR REFERENCE	SPEED rev / min	POWER kW	DUTY	CONDENSER Starting	CONDENSER Permanent	NOTA	MASSE Kg
CODE	*TENSION*	*REFERENCE MOTEUR*	*VITESSE t / min*	*PUISSANCE kW*	*SERVICE*	*CONDENSATEUR Démarrage*	*CONDENSATEUR Permanent*	*NOTA*	*MASSE Kg*
KODE	SPANNUNG	MOTOR REFERENZ	DREHZAHL U / min	LEISTUNG kW	E.D	KONDENSATOR Anlauf	KONDENSATOR Permanent	NOTA	MASSE Kg
PA 9	220/230	112 437	3000	0,75	S1	25 µF	16 µF	V	11
PB 5	110/115	112 438	3600	0,75	S1	80 µF		V	11,4

PB 5 approuved UL / *Certifié UL* / UL zertifiziert

V Cooled / *Ventilé* / Belüftet



For Mini electro-pump sets with pressure relief valve : specify the required seting full flow of By-pass .

1 1	RA	6	T	4 C	X	XX	X	100
I Sign	II Sign	III Sign	IV Sign	V VI Sign	VII Sign	VIII Sign	IX Sign	

PUMP TYPE

Series 1

GENERATION 1

MOTOR TYPE according to F.T R 0185

VOLTAGE

220 - 230 Volts - 60 Hz	3
110 - 115 Volts - 60 Hz	5
230 - 400 Voltz - 50 Hz	6
230 - 400 Volts - 60 Hz	7
100 Voltz - 50 Hz	8
220 - 230 Volts - 50 Hz	9
Special Voltage	*
without Motor	X

CURRENT

Three - phase	T
Single phase	M
without Motor	X

PUMP CAPACITY

1 cc / rev 0,06 Cubic / inch	1	4 cc / rev 0,24 Cubic / inch	4
2 cc / rev 0,12 Cubic / inch	2	5 cc / rev 0,30 Cubic / inch	5
3 cc / rev 0,18 Cubic / inch	3	6 cc / rev 0,36 Cubic / inch	6

DECOMPRESSION DEVICE

XX	without decompression
10	High pressure relief valve (Adjustable) internal return
11	High pressure relief valve (Adjustable) external return
12 ●	Low pressure relief valve internal return
13 ●	Low pressure relief valve external return

RELAY

X without Relay

TYPE of SHAFT

C	Straight keyed
T	Tang

X without tank

● Low pressure relief valve consult our technical departments

ATTENTION in case of a mounting without electric motor, specify the bell housing and coupling references after the Codification .

CODIFICATION OF MINI ELECTRO - PUMP SETS

ALTERNATING CURRENT VERSION 1G SERIES 1

Frame 80 — Three-Phase Motors

II Sign *Signe* Zeichen	Voltage *Tension* Spannung III Sign *Signe* Zeichen	Ref.	Speed *Vitesse* Drehzahl rev / min *t / min* U / min	Power *Puissance* Leistung kW	Duty *Service* E.D	Frequency *Frequence* Frequenz Hz	NB *Nota* Nota	Bell - Housing *Lanterne* Flansch
PC	6	112 486	1500	0,95	S1	50	air cooled - *Ventilé* - belüftet	109 663
PD	7	112 442	3600	1,50	S3	60	not cooled - *UL approuved Non ventilé - Certifié UL* - nicht belüftet - UL zertifiziert	
PE	6	112 424	3000	1,70	S3	50	not cooled - *Non ventilé* - nicht belüftet	
PF	6	112 114	3000	2,30	S3	50	not cooled - *Non ventilé* - nicht belüftet	
PH	6	112 386	2750	2,30	S3	50	Motor at tang - not cooled - *Moteur à tenon - Non ventilé* **Motor mit Zapfen** - nicht belüftet	112 387

Frame 90

II Sign *Signe* Zeichen	Voltage *Tension* Spannung III Sign *Signe* Zeichen	Ref.	Speed *Vitesse* Drehzahl rev / min *t / min* U / min	Power *Puissance* Leistung kW	Duty *Service* E.D	Frequency *Frequence* Frequenz Hz	NB *Nota* Nota	Bell - Housing *Lanterne* Flansch
RA	6	112 487	1500	1,50	S1	50	air cooled - *Ventilé* - belüftet	109 662
RB	6	112 433	3000	1,50	S1	50	air cooled - *Ventilé* - belüftet	
RC	6	112 272	3000	3,50	S3	50	not cooled - *Non ventilé* - nicht belüftet	
RD	6	112 425	3000	4,40	S3	50	not cooled - *Non ventilé* - nicht belüftet	

THREE-PHASE MOTORS for MINI ELECTRO PUMP SETS and MINI POWER PACKS

Frame 80

Single phase Motors

II Sign *Signe* Zeichen	Voltage *Tension* Spannung III Sign *Signe* Zeichen	Ref.	Speed *Vitesse* Drehzahl rev / min *t / min* U / min	Power *Puissance* Leistung kW	Duty *Service* E.D	Frequency *Frequence* Frequenz Hz	Condenser *Condensateur* Kondensator Starting *Démarrage* Anlauf	Condenser *Condensateur* Kondensator Permanent *Permanent* Permanent	NB *Nota* Nota	Bell - Housing *Lanterne* Flansch
PA	9	*112 437*	*3000*	*0,75*	*S1*	*50*	*25 µF*	*16 µF*	air cooled - *Ventilé* - belüftet	
PB	5	*112 438*	*3450*	*0,75*	*S1*	*60*	*80 µF*		air cooled - *Ventilé* - belüftet	*109 663*

**	*	Special Motor - Special Voltage *Moteur spécial - Tension spéciale* *Spezial Motor - Spezial Spannung*
XX	X	without Motor - *Sans Moteur -* *ohne Motor -*

SINGLE PHASE MOTORS for MINI ELECTRO PUMP SETS and MINI POWER PACKS

DIRECT CURRENT and ALTERNATING

Relay

Braid

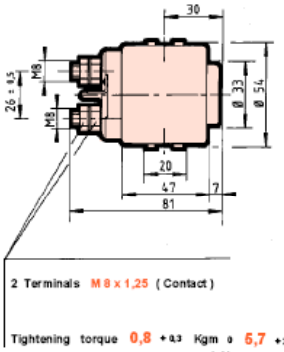
Bell Housings

Coupling

CODIFICATION

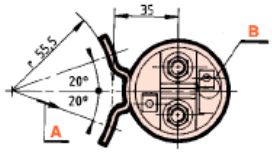
I	II	III	IV	V	VI	VII	VIII	IX
						S		

(F.T R 0014)

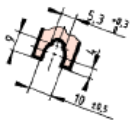


2 Terminals M 8 x 1,25 (Contact)

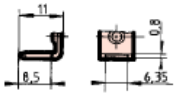
Tightening torque 0,8 +0,3 Kgm ou 5,7 +2,1 lb / ft



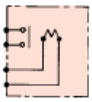
View A



View B



SYMBOL



Approximative weight : 0,7 Kg

References : 12 V 111 056 24 V 111 057

GENERAL CHARACTERISTICS

PROTECTION : IP54 Excepted connections (DIN 40 050)

ENVIRONEMENT : 96 h Salt spray

UTILIZATION : Intermittent duty

FUNCTION : Normally opened (mono-contact)

working TEMPERATURE from -30 to +60 °C

ELECTRO - TECHNICAL CHARACTERISTICS

+ 5°
at ambient temp : 20 °C - 0°

MINI ENERGIZING VOLTAGE U< U Nominal - 30 %	8,4 V	16,8 V
NOMINAL VOLTAGE (U)	12 V	24 V
MAXI VOLTAGE (U) U = U Nominal + 20 %	14,4 V	28,4 V
NOMINAL ENERGIZING POWER	30 W	25 W
MAXI TEMPERATURE of the Coil	120 °C	120 °C
INSULATION CLASS	A (VDE 110 § 5)	
ENDURANCE	≥ 30 000 cycles 3 sec. 200 Amp. / min	
PROTECTION	IP 54	

CHARACTERISTICS for the USE
see figures on the verso of the data sheet

RELAY

Duties for Amperage ≤ 100 A. in contact

	8,4 V	9,6 V	10,8 V	12 V	12,6 V	13,2 V	14,4 V
	- 30 %	- 20 %	- 10 %	Rated voltage *Tension Nominale* Nennspannung	+ 5 %	+ 10 %	+ 20 %
	16,8 V	19,2 V	21,6 V	24 V	25,2 V	26,4 V	28,8 V
S2	see - *voir* - Siehe S1						
S3	see - *voir* - Siehe S1						
S4a	600	600	600	600	600	600	600
S4b	600	600	600	600	600	600	600
P.C							

Duties for Amperage ≥ 100 A. in contact depending : 1°) of the Tension 2°) of the Power

		8,4 V	9,6 V	10,8 V	12 V	12,6 V	13,2 V	14,4 V
		- 30 %	- 20 %	- 10 %	Rated voltage *Tension Nominale* Nennspannung	+ 5 %	+ 10 %	+ 20 %
	INTENSITY *INTENSITE* STROMSTÄRKE	16,8 V	19,2 V	21,6 V	24 V	25,2 V	26,4 V	28,8 V
S2	200 A	1	1	1	1	0,80	0,70	0,50
	300 A	0,50	0,50	0,50	0,50	0,50	0,50	0,50
	500 A	0,15	0,15	0,15	0,15	0,15	0,15	0,15
S3	200 A	10	10	7	5	3	2,50	2
	300 A	5	5	5	5	3	2,50	2
	500 A	1,50	1,50	1,50	1,50	1,50	1,50	1,50
S4a	200 A	600	600	600	600	480	420	300
	300 A	300	300	300	300	300	300	300
	500 A	40	40	40	40	40	40	40
S4b	200 A	600	600	600	600	480	420	300
	300 A	350	350	350	350	350	350	350
	500 A	60	60	60	60	60	60	60
P.C	200 A	2,50	2,50	2,50	2,50	2,50	2,10	1,60
	300 A	0,70	0,70	0,70	0,70	0,70	0,70	0,70
	500 A	0,20	0,20	0,20	0,20	0,20	0,20	0,20

* Duties according to norms NF. C 51 111- VDE 530.1

* S1 Continuous Duty
* S2 Temporary Duties (min)
* S3 Periodical intermittent Duties (% of 10 min)
* S4 a Number of start / hour
  1 Second work - 5 Seconds stop
* S4 b Number of start / hour
  1 Second work - 1 Second stop during 20 Seconds - Rest 40 Seconds

P.C Continuous working breaking point (min)

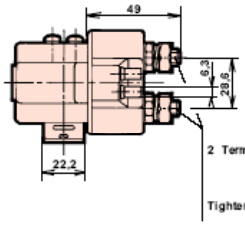
CHARACTERISTICS for the USE of RELAY

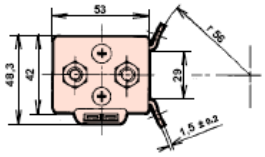
CODIFICATION

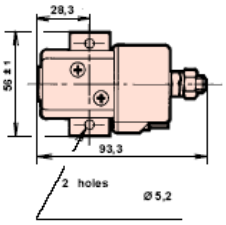
I	II	III	IV	V	VI	VII	VIII	IX
						S		

(F.T R 0014)

SYMBOL







Approximative weight : 0,4 Kg

References : 12 V 112 391 24 V 112 390

GENERAL CHARACTERISTICS

PROTECTION : IP54 Excepted connections (DIN 40 050)

ENVIRONEMENT : 96 h Salt spray

UTILIZATION : Intermittent duty

FUNCTION : Normally opened (mono-contact)

working TEMPERATURE from - 40 to + 70 °C

ELECTRO - TECHNICAL CHARACTERISTICS

+ 5°
at ambient temp : 20 °C - 0°

MINI ENERGIZING VOLTAGE U ≤ U Nominal - 30 %	8,4 V	16,8 V
NOMINAL VOLTAGE (U)	12 V	24 V
MAXI VOLTAGE (U) U = U Nominal + 20 %	14,4 V	28,4 V
NOMINAL ENERGIZING POWER	30 W	25 W
MAXI TEMPERATURE of the Coil	120 °C	120 °C
INSULATION CLASS	A (VDE 110 § 5)	
ENDURANCE	≥ 30 000 cycles 3 sec. 200 Amp. / min	
PROTECTION	I P 54	

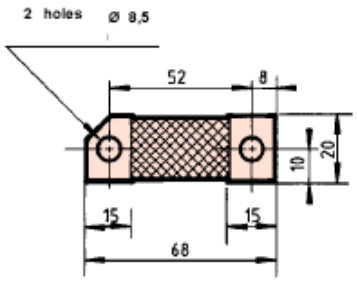
CHARACTERISTICS for the USE
see figures on the verso of the data sheet

RELAY

BRAID (not insulated)

Reference 101 809

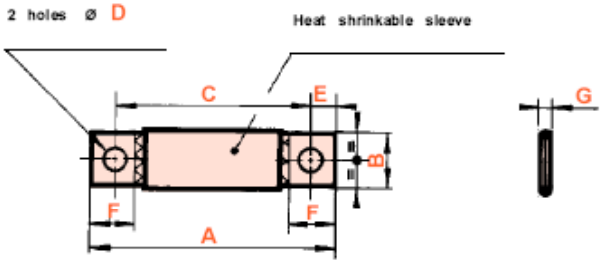
Approximative weight : 0,020 kg



section of the wire : S = 16 mm2

Standard Utilization on Mini Power Packs *Utilisation Standard sur Mini - Centrales* Standard - Verwendung auf Mini - Aggregaten	
Motors *Moteurs* Motoren	DI - BI - BL - CL

BRAID (Insulated)



Approximative weight : 0,025 / 0,035 kg

Section of the wire : S = 16 mm2

Dimensions - *References* - Referenzen							References *References* Referenzen
A	B	C	Ø D	E	F	G	
87 2,5	18	72	8,5	7,5	15		105 400 *
120 2,5	20	100	10	10	20		110 628 *
68 2,5	20	52	8,5	8	15		111 091 *

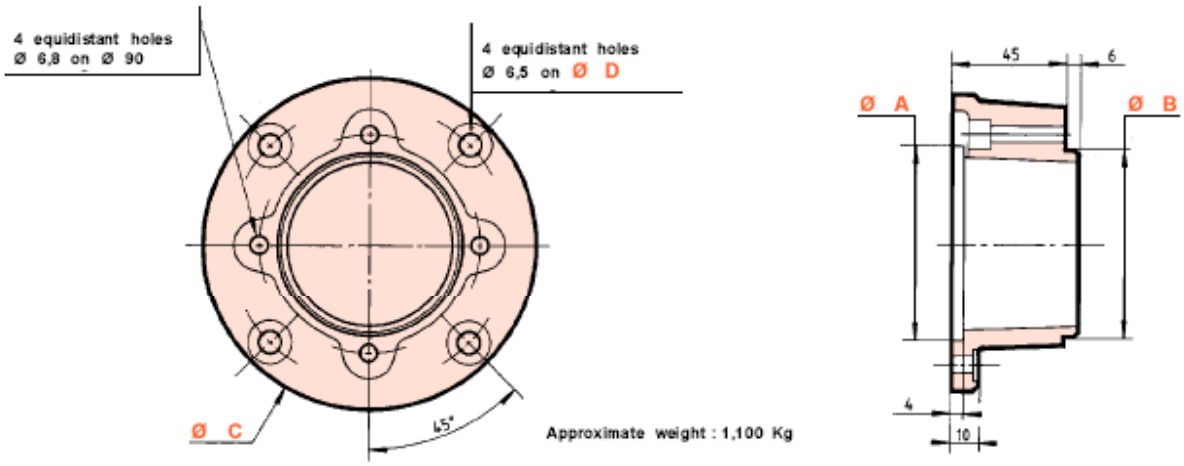
* Utilization on special request

110 628 Utilization on Micro Power Packs *Utilisation sur Micro - Centrales* *(ATTENTION : Livré non montée)* Verwendung auf Mikro - Aggregaten (ACHTUNG : separat geliefert)	
Motors *Moteurs* Motoren	HE - AE

UTILIZATION :

Connection between motor terminal and relay terminal

BRAID



TYPE of MOTOR / TYPE de MOTEUR / MOTOR TYP	Dimensions of the flange / Dimensions de la Bride / Flanschabmessungen	Ø A F8	Ø B	Ø C	Ø D	Unit N° / N° Ensembles / Gruppen Nr.
80	100 x 80 x 120	80 $^{+0,076}_{+0,030}$	76,17 $^{0}_{-0,05}$	120 $^{+0,5}_{0}$	100	E.5072411
90	115 x 95 x 140	95 $^{+0,090}_{+0,036}$	76,17 $^{0}_{-0,05}$	134 $^{+0,5}_{0}$	115	E.5072410

UTILIZATION : Mini Electro Pumps and Mini Power Packs

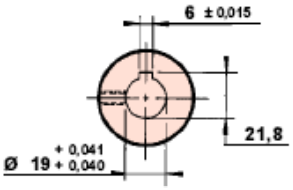
The bell housings of cast iron allow the adaptation to AC motors (three phase or single phase) fitted with flanges Type B 14 - B 34

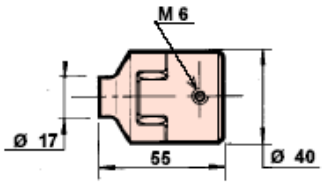
The here-above mentioned units include : bell housing and screws

For the coupling, revert to Data sheets F.T 10 067

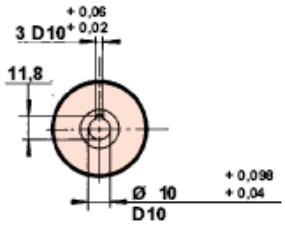
BELL HOUSING for MINI ELECTRO PUMPS and MINI POWER PACKS

COUPLING MOTOR SIDE





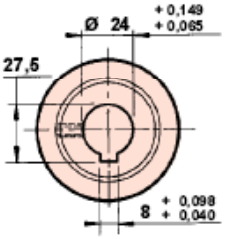
COUPLING PUMP SIDE

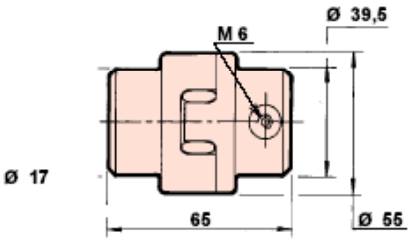


Reference : E. 5067940

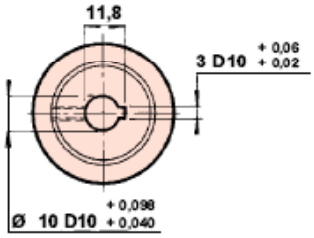
Approximate weight : 0,450 Kg

COUPLING MOTOR SIDE





COUPLING PUMP SIDE



Reference : E. 5067950

Approximate weight : 0,750 Kg

COUPLING for MINI ELECTRO PUMPS and MINI POWER PACKS with THREE and SINGLE PHASE MOTOR