

CAT: MINI 2G-PM-07  
PUBLISHED: 05/2007  
North American Catalog



HYDRAULIC INNOVATION  
AT YOUR SERVICE

2G

MINI PUMP-MOTOR  
COMBINATIONS  
2'ND GENERATION





# SALES ORGANIZATION

**Who are we?** HPI develops and manufactures hydraulic products and systems based on the gear pump technology. Over 500 people are employed in both sites in Chennevieres (Paris surroundings) and Blois (Val de Loire). As a subsidiary of the Koyo Group (25000 employees all over the world), HPI is provided with first range development and testing capacities, thus conforming to an international quality system of reference.

HPI is supported by a subsidiary in North America and a network of over 50 distributors in France and throughout the world. This network offers our customers a daily local service, thus ensuring a maximum reactivity. Whenever needed, each member of our network can rely on the resources and structures of HPI in order to meet its customers requirements.



### Material Handling

Lifting systems for all stationary (AC) or mobile (DC) handling equipment.

### Aeronautics - Military applications

High tech pumps and electro-pump sets used for civil and military applications such as helicopters, fighters, military vehicles...

### Trucks - Coaches - Buses

Power assisted steering. Hydrostatic transmission for hydraulic or electro-hydraulic driven cooling system

### Agricultural Machinery

Tractor lifting systems and auxillary functions, harvest toppers, scrub clearing machines...

### Public works and Road Maintenance

Hydraulic systems for excavators, loaders, road rollers, garbage dumpers, snowploughs...



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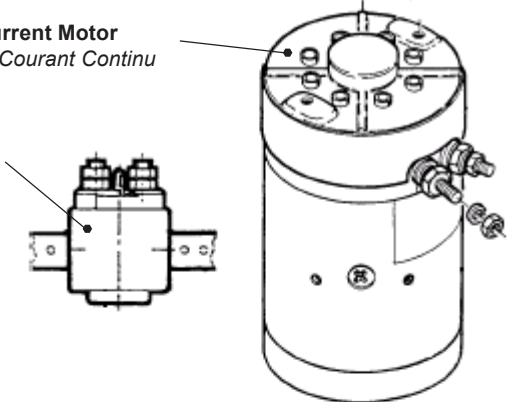


**Hydroperfect Intl. Inc.**  
**North America**  
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 Fax: (905) 791-7322

**UNIT COMPOSITION**  
**COMPOSITION**

**Direct Current Motor**  
*Moteur à Courant Continu*

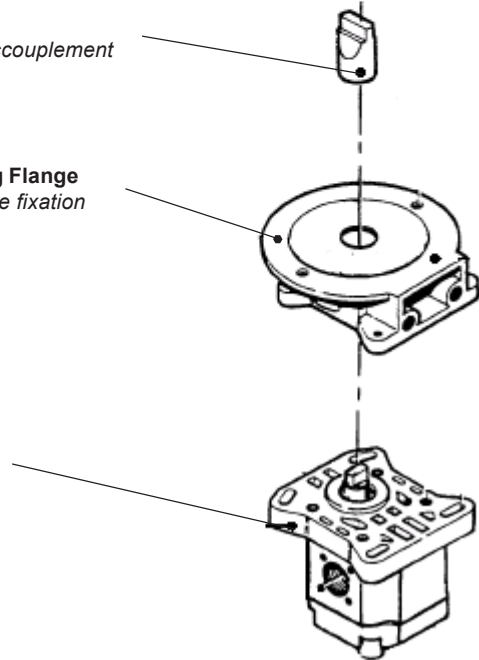
**Relay**  
*Relais*



**Coupling**  
*Noix d'accouplement*

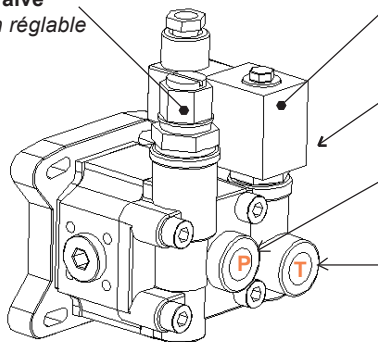
**Mounting Flange**  
*Lantern de fixation*

**Pump**  
*Pompe*



**PUMP WITH INTEGRATED RELIEF AND 2 WAY POPPET VALVE.**

**Adjustable Relief Valve**  
*Limiteur de pression réglable*

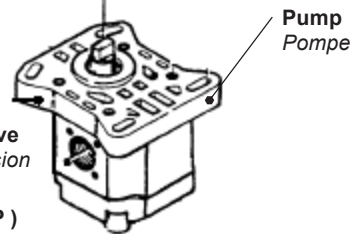


**Decompression Valve**  
*Valve et Decompression*

**Inlet Port ( 3/8 BSPP )**  
*Orifice d'alimentation*  
 (side of pump)

**Pressure Port ( 3/8 BSPP )**  
*Orifice de Pression*

**Return Port ( 3/8 BSPP )**  
*Orifice de Retour*



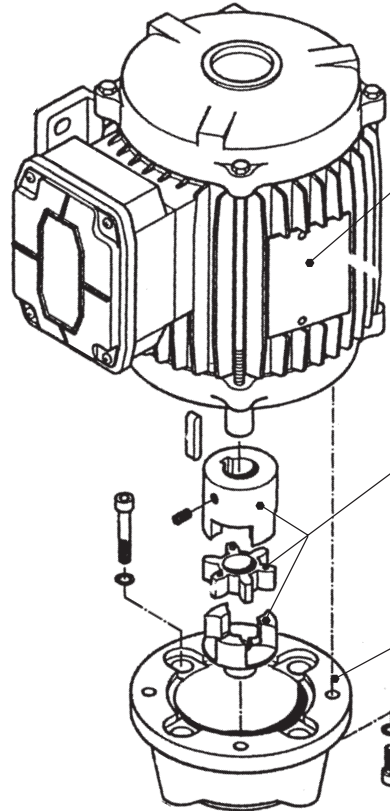
**Alternating Current Motor**  
*Moteur à Courant Alternatif*

**Coupling Set**  
*Accouplement*

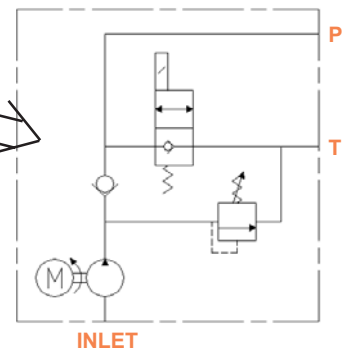
**Bellhousing**  
*Lantern de fixation*

**Mounting Flange**  
*Lantern de fixation*

**Pump**  
*Pompe*



**Basic Hydraulic Sketch**  
*Schema hydraulique de base*



**MINI PUMP-MOTOR COMBINATIONS**  
**MINI GROUPES ELECTRO POMPES 2G**



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## SELECTION / INSTALLATION GUIDELINES *PRECONISATION D'INSTALLATION*

---

### **Selection Guidelines**

#### **Direct Current Models**

Based upon the flow and pressure requirements identify a motor and pump combination that will deliver the required performance. Attention should be paid to the duty ratings as well as the current draw to ensure it falls within acceptable levels.

#### **Alternating Current Models**

Based upon the flow and pressure requirements select a pump that is capable of providing the necessary flow and pressure. It is generally recommended that the 3450 RPM motors are used. Once the pump has been identified it will be necessary to calculate the required HP to drive the pump. Refer to the "Common Calculations and Conversion factors" area.

#### **Selecting Control Valves**

The final step in constructing the pump motor combination is to determine the valve combination that will be required. In the simplest form the unit is supplied without any additional valves. Optional components such as relief valves, check valves, flow controls can be integrated into the unit if required. For applications that are not listed in this catalog please contact an HPI representative.

### **Installation Guidelines**

#### **Electrical Motor Connections**

The electric motor should be wired for CW rotation as per the wiring label. All electrical connections should be made using the appropriate gauge wire based on the motor amp draw. It is common for a motor to see two to three times its rated current draw for a few seconds while starting up under load.

#### **Hydraulic Fluid.**

In General HPI recommends a high performance mineral based hydraulic fluid with a viscosity of 30 to 40 cSt at 40°C be used. Ethylene Glycol and Phostate Ester fluids are NOT to be used with HPI products. For fire resistant hydraulic fluids; only some polyol ester based fluids may be appropriate.

#### **Instructions specific to Models with Integral Valves.**

#### **Electrical Valve Connections**

Attention should be paid as to the type of connector that is supplied with the valve coils. HPI uses both straight voltage and rectified voltage coils. AC coils that require rectified connectors are usually marked as "VRAC" (Voltage Rectified Alternating Current.)

#### **Adjusting the Relief Valve**

The relief valve may be adjusted to increase or decrease the maximum system pressure. This adjustment will only affect the pressure setting and will have no direct effect on the flow of the pump. It is important that the relief valve is not turned in all the way, as doing so would cause possible catastrophic failure of components in the system should there be a spike in pressure. Turning the adjustment screw clockwise will increase the pressure, turning counterclockwise will decrease the pressure.



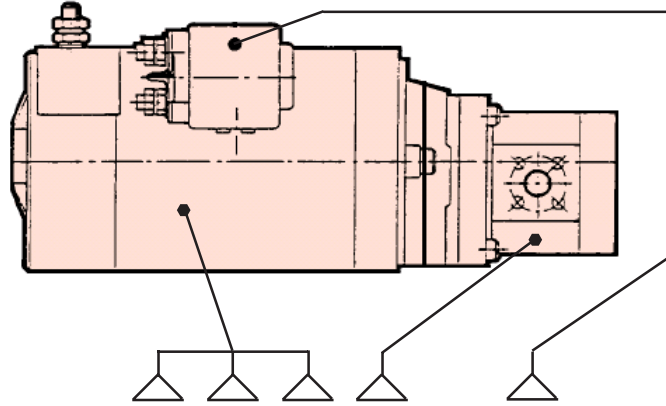
## CODIFICATION TABLE

### MINI 2G PUMP MOTOR COMBINATIONS

DIRECT CURRENT

(NORTH AMERICAN FORMAT)

REVISION 2- 01/2005



#### CODIFICATION

North American **N**

#### PUMP TYPE

Series 1 **1**

#### GENERATION

2nd Generation **2**

#### MOTOR TYPE

NO MOTOR **000**  
 1,3 kW 12 Vdc **DS1**  
 2,1 kW 12 Vdc **BK1**  
 1,5 kW 24 Vdc **DS2**  
 2,2 kW 24 Vdc **BK2**  
 2,2 kW 24 Vdc **BS2**  
 3,0 kW 24 Vdc **CI2**  
 SPECIAL **\*\*\***

#### PUMP CAPACITY

1 cc / rev	0,06 Cubic / Inch	<b>1</b>
2 cc / rev	0,12 Cubic / Inch	<b>2</b>
3 cc / rev	0,18 Cubic / Inch	<b>3</b>
4 cc / rev	0,24 Cubic / Inch	<b>4</b>
5 cc / rev	0,30 Cubic / Inch	<b>5</b>
6 cc / rev	0,36 Cubic / Inch	<b>6</b>

#### SHAFT TYPE

TANG SHAFT **T**

#### RELAY

NONE **X**  
 WITH RELAY (<150 Amp) **R**  
 WITH RELAY (>150 Amp) **S**

#### VALVES (only available on unit with integral valves)

NOT APPLICABLE		<b>XX</b>	
		20 l/min	10 l/min
		<b>VNF</b>	<b>VNO</b>
		<b>VLB</b>	<b>VNF2G</b>
12VDC	<b>12 22 32 42</b>		
24VDC	<b>14 24 34 44</b>		

**VNF** = NORMALLY CLOSED.  
**VNO** = NORMALLY OPEN.  
**VLB** = DOUBLE LOCK.

#### RESERVOIR

NO RESERVOIR **X**

#### RELIEF SETTING (only applicate on unit with integral valving)

NOT APPLICABLE **LEAVE BLANK**  
 SPECIFY IN PSI **###**

<b>N</b>	<b>1</b>	<b>2</b>	<b>B</b>	<b>S</b>	<b>2</b>	<b>3</b>	<b>T</b>	<b>R</b>	<b>XX</b>	<b>X</b>	<b>###</b>
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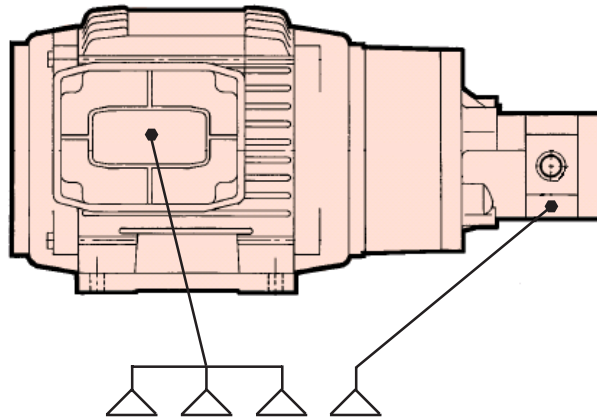
## CODIFICATION TABLE

### MINI 2G PUMP MOTOR COMBINATIONS

#### ALTERNATING CURRENT

(NORTH AMERICAN FORMAT)

REVISION 2- 01/2005



N	1	2	Y	6	X	2	C	X	XX	X	####
---	---	---	---	---	---	---	---	---	----	---	------

#### CODIFICATION

North American **N**

#### PUMP TYPE

Series 1 **1**

#### GENERATION

2'nd Generation **2**

#### MOTOR TYPE

NO MOTOR **0**

0.25 HP **A**

0.33 HP **B**

0.50 HP **D**

0.75 HP **G**

1.00 HP **F**

1.50 HP **X**

2.00 HP **Y**

3.00 HP **W**

5.00 HP **R**

SPECIAL **\***

#### VOLTAGE

NO MOTOR **X**

115 / 230 1725 RPM **3**

115 / 230 3450 RPM **4**

230 / 460 1725 RPM **5**

230 / 460 3450 RPM **6**

575 1725 RPM **7**

575 3450 RPM **8**

AIR MOTOR **9**

SPECIAL **\***

#### MOTOR SPECIAL

NONE **X**

WASHDOWN **W**

THERMAL PROTECTION **T**

50 hz **E**

8 VANE AIR MOTOR **V**

SPECIAL **\***

#### 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**

#### SHAFT TYPE

KEYED SHAFT **C**

#### RELAY

NONE **X**

#### VALVES (only available on unit with integral valving)

NOT APPLICABLE

**XX**

20 l/min

10 l/min

VNF VNO VLB VNF2G

12VDC **12 22 32 42**

24VDC **14 24 34 44**

24VAC **15 25 35 45**

48VAC **17 27 37 47**

115VAC **11 21 31 41**

230VAC **13 23 33 43**

VNF = NORMALLY CLOSED.

VNO = NORMALLY OPEN.

VLB = DOUBLE LOCK.

#### RESERVOIR

NO RESERVOIR **X**

#### RELIEF SETTING (only applicate on unit with integral valving)

NOT APPLICABLE

LEAVE BLANK

SPECIFY IN PSI

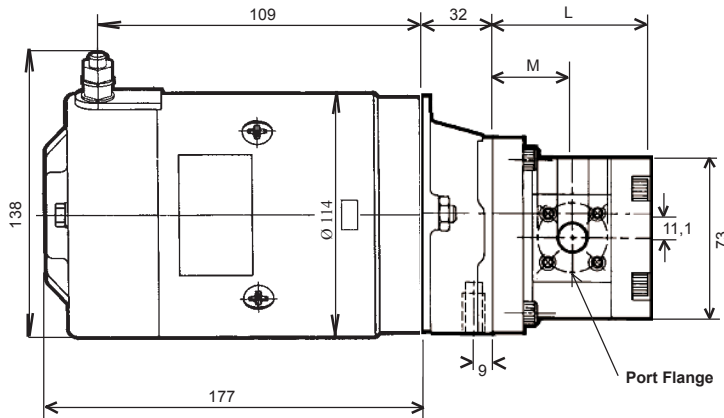
####



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# MOTOR SPECIFICATIONS - DIRECT CURRENT

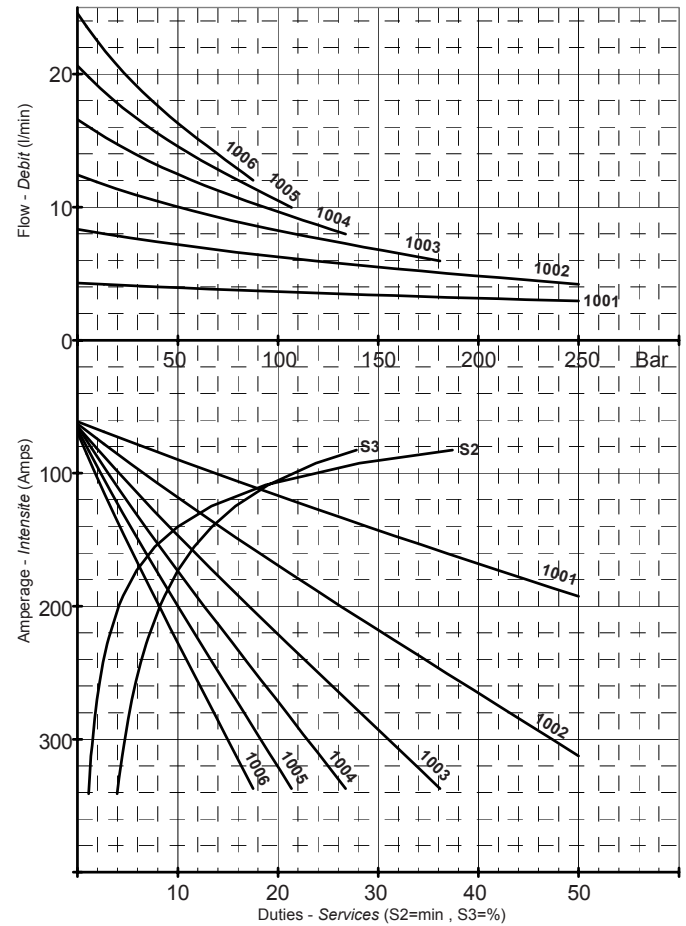
## SPECIFICATION MOTEUR - COURANT CONTINU



PUMP TYPE TYPE de POMPE	M	L
1001 to 1003 a	35,9	72,6
1004 to 1006	40,7	82,4

SPECIFICATIONS	
CODE CODE	<b>DS1</b>
VOLTAGE TENSION	<b>12VDC</b>
REFERENCE REFERENCE	<b>114133</b>
NOMINAL POWER PUISSANCE NOM.	<b>1,3 kW</b>
S3 S3	<b>10%</b>
PROTECTION PROTECTION	<b>IP44</b>
MASS MASSE	<b>7,5Kg</b>

PUMPS POMPES		PRESSURE - PRESSION DUTIES - SERVICES							
		5 bar	50 bar	100 bar	150 bar	175 bar	200 bar	225 bar	250 bar
		72 PSI	725 PSI	1450 PSI	2175 PSI	2540 PSI	2900 PSI	3260 PSI	3630 PSI
1001	Q	4,3	4	3,7	3,4	3,3	3,2	3	2,9
	I	64,1	89,7	116,8	142,9	155,6	168,1	180,4	192,6
	S2	40	30,4	15,7	9,5	7,7	6,3	5,3	4,5
	S3	39,4	24,8	17,2	13,1	11,6	10,4	9,5	8,7
1002	Q	8,2	7,2	6,3	5,5	5,2	4,8	4,5	4,2
	I	68,6	118,3	169,4	218	241,7	265,4	288,9	312,6
	S2	40	15,2	6,2	3,3	2,6	2	1,6	1,3
	S3	35,9	16,9	10,3	7,3	6,3	5,6	5	4,4
1003	Q	12,2	10	8,2	6,8	6,1	180 bar max		
	I	73,4	146,8	221,1	292,8	328,7			
	S2	40	8,9	3,2	1,6	1,2			
	S3	32,7	12,6	7,2	4,9	4,1			
1004	Q	16,1	12,5	9,6	130 bar max				
	I	76,6	173,6	271,8					
	S2	40	5,9	1,9					
	S3	30,8	10	5,4					
1005	Q	19,9	14,6	10,5	105 bar max				
	I	81,4	199,8	320,9					
	S2	38,7	4,1	1,3					
	S3	28,3	8,2	4,3					
1006	Q	23,5	16,3	85 bar max					
	I	86,9	227,5						
	S2	32,8	3						
	S3	25,9	6,9						



- Q:** Flow (l/min) / Debit (l / min)
- I:** Amperage / Intensite en Amperes
- S1:** Continuous Duty / Service Continu
- S2:** Temporary Duty (min) / Service Temporaire (min)
- S3:** Intermittent Duty (10% of 10 min) / Service Intermittent (10% de 10 min)
- ID:** Starting Amperage / Intensite de demarrage:

HPI advises recommending Shell  
 SHELL TELLUST VISCOSITE : according to technical specifications  
 VISCOSITE : selon spécifications techniques  
 VISKOSITÄT : gemäß technischen Spezifikationen

Curves drawn using Shell Tellus T46  
 Viscosity of 46 cST (+/- 10%) at 40°C  
 Ambient temperature 20°C

Note: Specifications subject to change

**MINI PUMP-MOTOR COMBINATIONS**  
**MINI GROUPES ELECTRO POMPES 2G**

**TYPE DS - 12 VDC: 1,5kW**

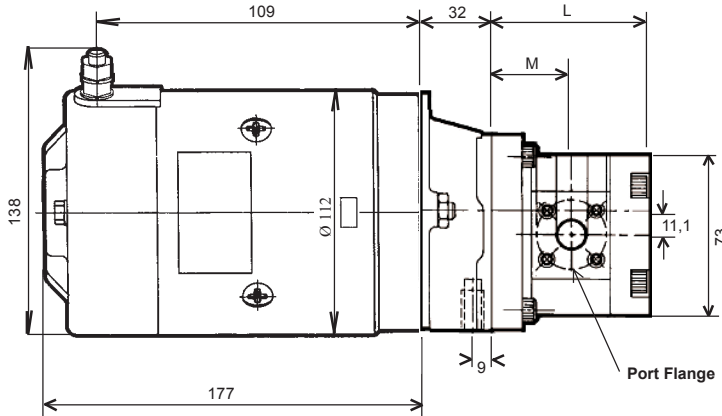




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# MOTOR SPECIFICATIONS - DIRECT CURRENT

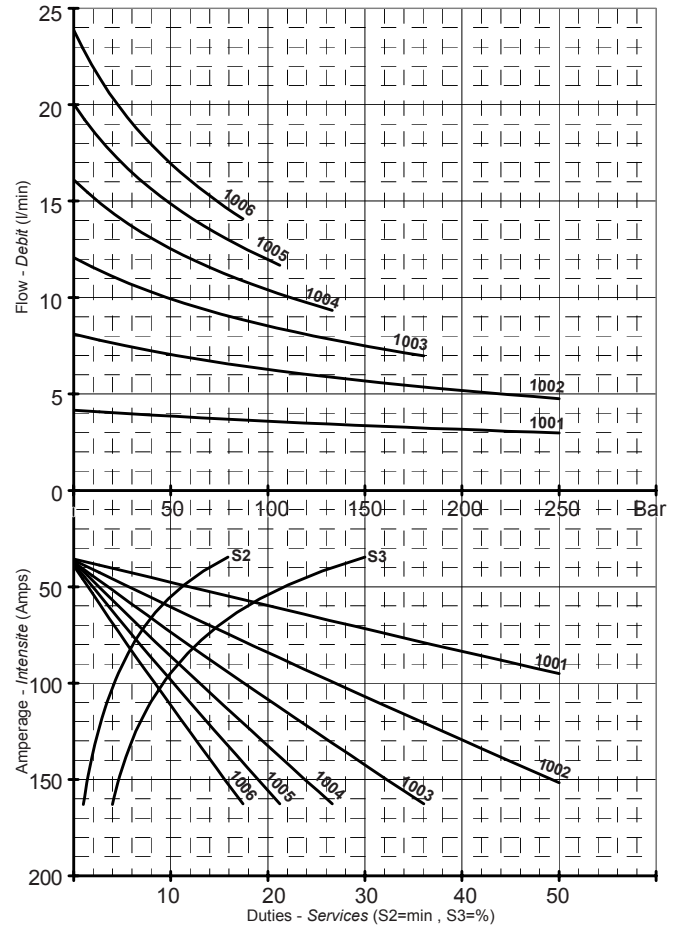
## SPECIFICATION MOTEUR - COURANT CONTINU



PUMP TYPE TYPE de POMPE	M	L
1001 to 1003	35,9	72,6
1004 <sup>a</sup> 1006	40,7	82,4

SPECIFICATIONS	
CODE CODE	<b>DS2</b>
VOLTAGE TENSION	<b>24VDC</b>
REFERENCE REFERENCE	<b>114134</b>
NOMINAL POWER PUISSANCE NOM.	<b>1,5 kW</b>
S3 S3	<b>10%</b>
PROTECTION PROTECTION	<b>IP44</b>
MASS MASSE	<b>6,9 Kg</b>

PUMPS POMPES		PRESSURE - PRESSION DUTIES - SERVICES							
		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	4,1	3,9	3,6	3,4	3,3	3,2	3,1	3
	I	36,9	47,7	59,8	71,8	77,7	83,5	89,3	95
	S2	15	11,7	9,1	7,1	6,4	5,7	5,1	4,6
	S3	28,5	22,7	18	14,5	13,1	11,9	10,9	9,9
1002	Q	8	7	6,3	5,7	5,4	5,2	5	4,8
	I	38,8	60,5	84,1	107	118,2	129,5	140,6	151,7
	S2	14,4	8,9	5,6	3,6	2,9	2,3	1,8	1,4
	S3	27,4	17,7	11,8	8,3	7,1	6	5,2	4,5
1003	Q	11,8	9,9	8,5	7,5	7,1	180 bar max		
	I	40,7	73,6	108,4	142,5	159,2			
	S2	13,7	6,9	3,5	1,7	1,1			
	S3	26,2	14,1	8,1	5,1	4,2			
1004	Q	15,6	12,5	10,4	130 bar max				
	I	42	86,1	132,6					
	S2	13,3	5,4	2,2					
	S3	25,5	11,4	5,8					
1005	Q	19,3	14,9	12	105 bar max				
	I	44,1	98,4	155,7					
	S2	12,7	4,3	1,2					
	S3	24,4	9,4	4,3					
1006	Q	22,9	16,9	85 bar max					
	I	46,4	111,5						
	S2	12	3,3						
	S3	23,2	7,8						



- Q:** Flow (l/min) / Debit (l / min)
- I:** Amperage / Intensite en Amperes
- S1:** Continuous Duty / Service Continu
- S2:** Temporary Duty (10 min) / Service Temporaire (min)
- S3:** Intermittent Duty (10% of 10 min) / Service Intermittent (10% de 10 min)
- ID:** Starting Amperage / Intensite de demarrage: 650 Amps

HPI advises recommende empfiehlt  
 SHELL TELLUST VISCOSITE : according to technical specifications  
 VISCOSITE : selon specifications techniques  
 VISCOSITÄT : gemäß technischen Spezifikationen

Curves drawn using Shell Tellust T46  
 Viscosity of 46 cST (+/- 10%) at 40°C  
 Ambient temperature 20°C

Note: Specifications subject to change

**MINI PUMP-MOTOR COMBINATIONS**  
 MINI GROUPES ELECTRO POMPES **2G**

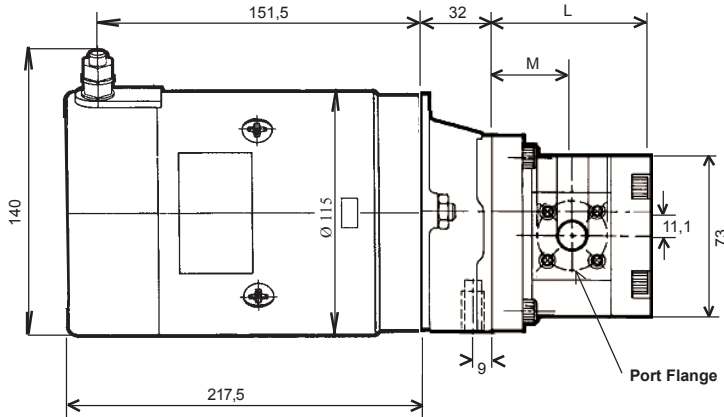
TYPE **DS - 24 VDC: 1,5kW**  
 TYPE



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# MOTOR SPECIFICATIONS - DIRECT CURRENT

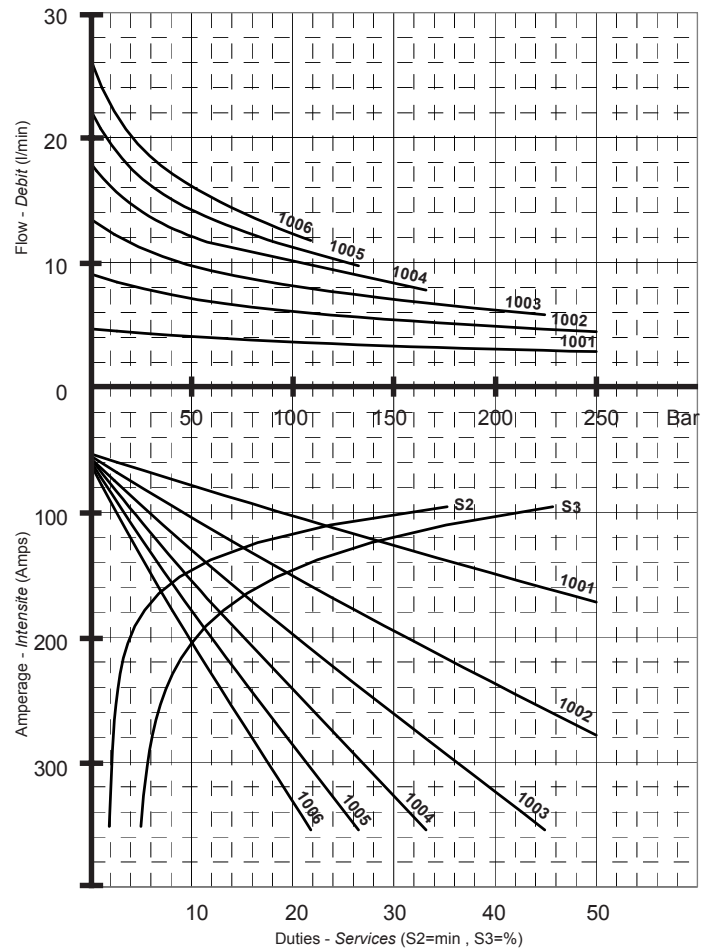
## SPECIFICATION MOTEUR - COURANT CONTINU



PUMP TYPE TYPE de POMPE	M	L
1001 to 1003 a	35,9	72,6
1004 to 1006	40,7	82,4

SPECIFICATIONS	
CODE CODE	<b>BK1</b>
VOLTAGE TENSION	<b>12VDC</b>
REFERENCE REFERENCE	114806
NOMINAL POWER PUISSANCE NOM.	<b>2,1 kW</b>
S3 S3	10%
PROTECTION PROTECTION	IP44
MASS MASSE	9,9 Kg

PUMPS POMPES	PRESSURE - PRESSION DUTIES - SERVICES								
	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	4,6	4,1	3,6	3,3	3,2	3,1	3	2,9
	I	55,7	78,4	102,9	126,6	138,2	149,6	160,9	172
	S2	30	30	28,8	15,6	11,9	9,2	7,4	6
	S3	45	45	40	26,8	22,4	19	16,3	14,2
1002	Q	8,8	7,1	6,1	5,4	5,1	4,9	4,7	4,5
	I	59,7	104,2	150,8	195	216,3	237,3	258,1	278,6
	S2	30	27,8	9	4,2	3,3	2,8	2,5	2,3
	S3	45	39	18,7	11	9	7,7	6,8	6,2
1003	Q	12,9	9,7	8,1	7	6,6	6,2	220 bar max	
	I	64	130,1	197,8	261,5	292,6	323,6		
	S2	30	14,3	4,1	2,5	2,2	2		
	S3	45	25,3	10,7	6,7	5,8	5,3		
1004	Q	17	12,1	9,8	8,2	165 bar max			
	I	66,8	154,6	243	327,3				
	S2	30	8,3	2,7	2				
	S3	45	17,7	7,4	5,3				
1005	Q	20,8	14,2	11,2	130 bar max				
	I	71,1	178,5	285,9					
	S2	30	5,4	2,3					
	S3	45	13,2	6					
1006	Q	24,3	16,1	12,3	105 bar max				
	I	76	203,5	331,4					
	S2	30	3,8	2					
	S3	45	10,1	5,2					



- Q:** Flow (l/min) / Debit (l / min)
- I:** Amperage / Intensite en Amperes
- S1:** Continuous Duty / Service Continu
- S2:** Temporary Duty (min) / Service Temporaire (min)
- S3:** Intermittent Duty (10% of 10 min) / Service Intermittent (10% de 10 min)
- ID:** Starting Amperage / Intensite de demarrage:

advises  
 recommande  
 empfiehlt

**Lubrificants**

SHELL TELLUST VISCOSITE : according to technical specifications  
 VISCOSITE : selon spécifications techniques  
 VISKOSITÄT : gemäß technischen Spezifikationen

Curves drawn using Shell Tellust T46  
 Viscosity of 46 cST (+/- 10%) at 40°C  
 Ambient temperature 20°C

Note: Specifications subject to change

**MINI PUMP-MOTOR COMBINATIONS**  
 MINI GROUPES ELECTRO POMPES **2G**

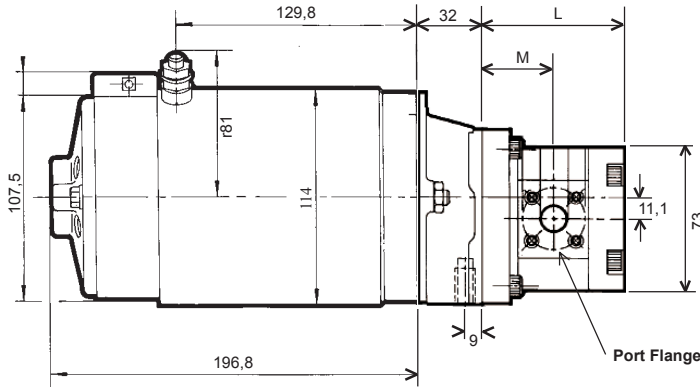
TYPE **BK - 12 VDC: 2,1 kW**  
 TYPE



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 North America  
 Tel: (905) 791-3388  
 Fax: (905) 791-7322

# MOTOR SPECIFICATIONS - DIRECT CURRENT

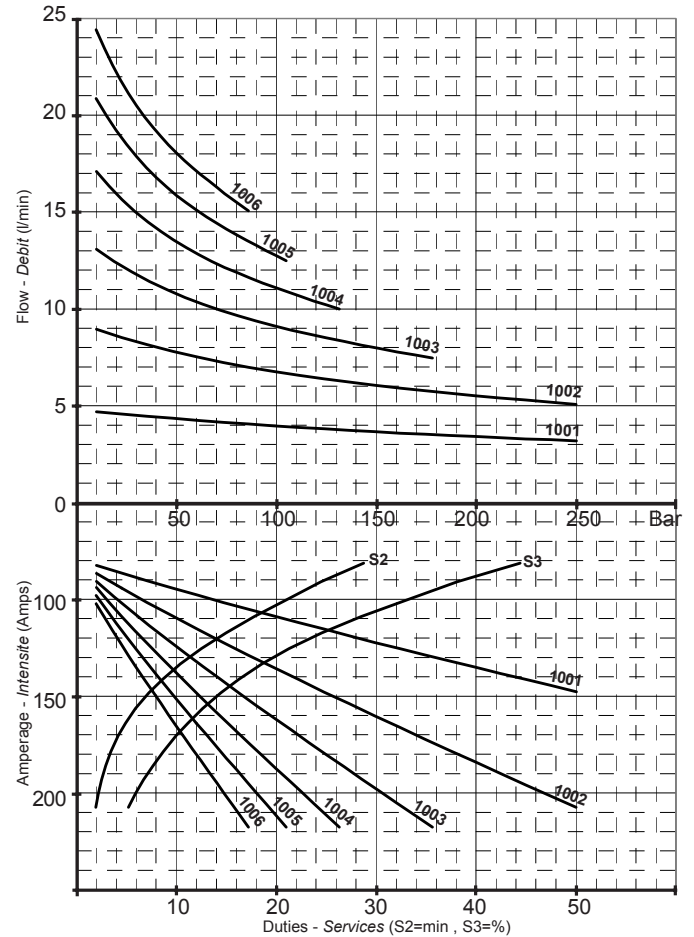
## SPECIFICATION MOTEUR - COURANT CONTINU



PUMP TYPE TYPE de POMPE	M	L
1001 to 1003 a	35,9	72,6
1004 to 1006	40,7	82,4

SPECIFICATIONS	
CODE CODE	<b>BK2</b>
VOLTAGE TENSION	<b>24VDC</b>
REFERENCE REFERENCE	<b>113349</b>
NOMINAL POWER PUISSANCE NOM.	<b>2,2 kW</b>
S3 S3	<b>10%</b>
PROTECTION PROTECTION	<b>IP44</b>
MASS MASSE	<b>7,4 Kg</b>

PUMPS POMPES	PRESSURE - PRESSION DUTIES - SERVICES								
	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	3,6	3,5	3,4	3,3	3,2
	I	31	45	59	73	79	86	92	98
	S2	29	23,1	17,8	13,4	11,6	10	8,6	7,4
	S3	44,8	36,1	28,5	22,5	20,1	18	16,2	14,6
1002	Q	9,1	7,8	6,8	6	5,8	5,5	5,3	5,1
	I	34	60	86	111	123	135	146	158
	S2	27,7	17,5	9,8	5,4	4	3,1	2,4	2
	S3	42,8	28,1	17,8	11,8	9,7	7,9	6,4	5,2
1003	Q	13,5	10,8	9,1	8	7,5	175 bar max		
	I	37	75	113	148	166			
	S2	26,5	12,8	5,2	2,3	1,7			
	S3	41	21,7	11,5	6,2	4,6			
1004	Q	17,8	13,5	11,1	130 bar max				
	I	38	89	138					
	S2	25,8	9,3	2,9					
	S3	40	17,2	7,5					
1005	Q	21,8	15,9	12,5	105 bar max				
	I	41	102	168					
	S2	24,7	6,7	1,7					
	S3	38,5	13,7	4,5					
1006	Q	25,7	18,1	85 bar max					
	I	44	116						
	S2	23,6	4,8						
	S3	36,8	10,9						



- Q:** Flow (l/min) / Debit (l / min)
- I:** Amperage / Intensite en Amperes
- S1:** Continuous Duty / Service Continu
- S2:** Temporary Duty (min) / Service Temporaire (min)
- S3:** Intermittent Duty (10% of 10 min) / Service Intermittent (10% de 10 min)
- ID:** Starting Amperage / Intensite de demarrage:

SHELL TELLUST VISCOSITY : according to technical specifications  
 VISCOSITE : selon specifications techniques  
 VISKOSITAT : gemäß technischen Spezifikationen

Curves drawn using Shell Tellust T46  
 Viscosity of 46 cST (+/- 10%) at 40°C  
 Ambient temperature 20°C

Note: Specifications subject to change

**MINI PUMP-MOTOR COMBINATIONS**  
 MINI GROUPES ELECTRO POMPES **2G**

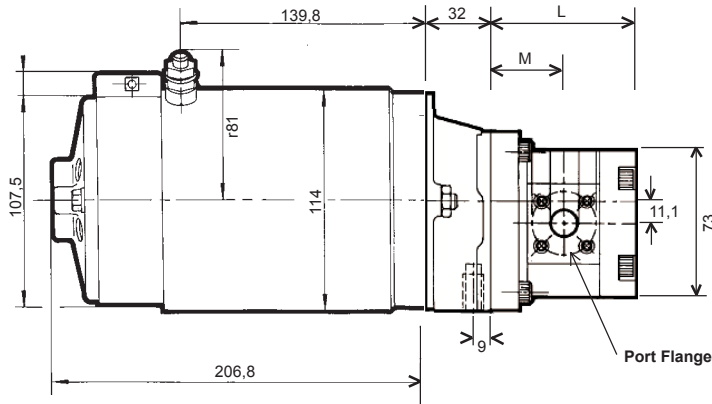
**TYPE BK - 24 VDC: 2,2 kW**



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# MOTOR SPECIFICATIONS - DIRECT CURRENT

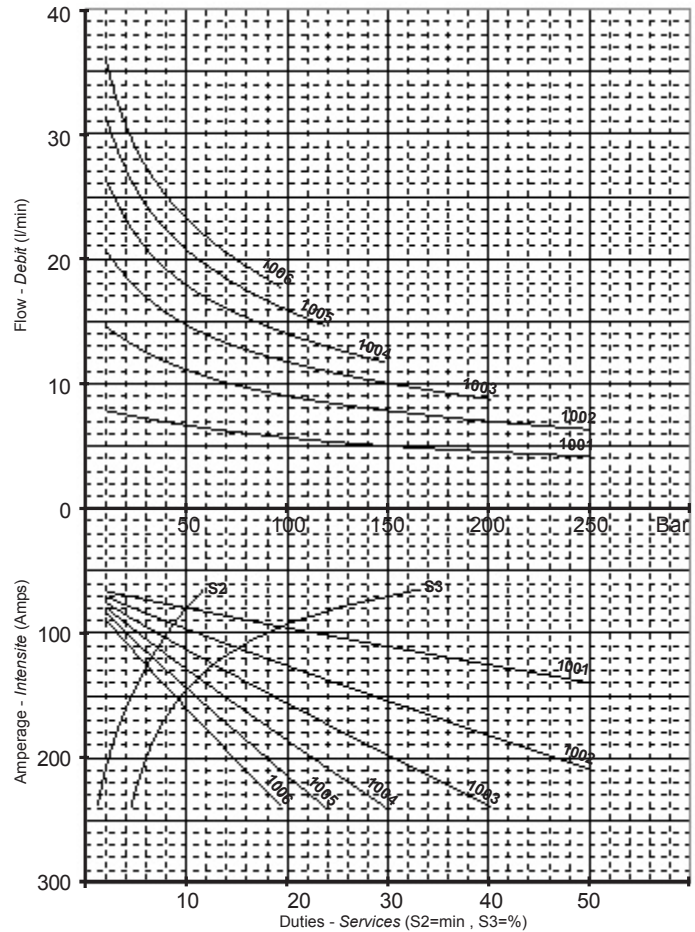
## SPECIFICATION MOTEUR - COURANT CONTINU



PUMP TYPE TYPE de POMPE	M	L
1001 to 1003 a	35,9	72,6
1004 to 1006	40,7	82,4

SPECIFICATIONS	
CODE CODE	<b>BS2</b>
VOLTAGE TENSION	<b>24VDC</b>
REFERENCE REFERENCE	<b>113305</b>
NOMINAL POWER PUISSANCE NOM.	<b>2,2 kW</b>
S3 S3	<b>10%</b>
PROTECTION PROTECTION	<b>IP44</b>
MASS MASSE	<b>8,4 Kg</b>

PUMPS POMPES		PRESSURE - PRESSION DUTIES - SERVICES							
		5 bar	50 bar	100 bar	150 bar	175 bar	200 bar	225 bar	250 bar
		72 PSI	725 PSI	1450 PSI	2175 PSI	2540 PSI	2900 PSI	3260 PSI	3630 PSI
1001	Q	8	6,7	5,7	5	4,8	4,5	4,4	4,2
	I	65	80	96	111	119	126	133	140
	S2	11,7	10	8,5	7,2	6,6	6,1	5,6	5,2
	S3	33,2	24,8	19,1	15,3	13,8	12,6	11,6	10,6
1002	Q	15,2	11,1	9	7,8	7,4	7	6,6	6,3
	I	68	97	127	155	169	182	196	210
	S2	11,4	8,4	6,1	4,3	3,6	3	2,4	2
	S3	31,5	18,8	12,5	9,1	7,9	7	6,2	5,6
1003	Q	21,9	14,7	11,8	10	9,4	8,8	200 bar max	
	I	71	114	157	198	219	239		
	S2	11	7	4,2	2,3	1,7	1,2		
	S3	29,6	14,8	8,9	6,1	5,2	4,5		
1004	Q	28,4	17,9	14	145 bar max				
	I	73	129	186					
	S2	10,8	5,9	2,8					
	S3	28,4	12,1	6,7					
1005	Q	34,4	20,7	15,9	115 bar max				
	I	76	145	215					
	S2	10,4	4,9	1,8					
	S3	26,9	10,1	5,4					
1006	Q	39,7	23,3	95 bar max					
	I	79	161						
	S2	10,1	4						
	S3	25,3	8,5						



- Q:** Flow (l/min) / Debit (l / min)
- I:** Amperage / Intensite en Amperes
- S1:** Continuous Duty / Service Continu
- S2:** Temporary Duty (min) / Service Temporaire (min)
- S3:** Intermittent Duty (10% of 10 min) / Service Intermittent (10% de 10 min)
- ID:** Starting Amperage / Intensite de demarrage:

SHELL TELLUST  
 VISCOSITY : according to technical specifications  
 VISCOSITE : selon spécifications techniques  
 VISKOSITÄT : gemäß technischen Spezifikationen

Curves drawn using Shell Tellust T46  
 Viscosity of 46 cSt (+/- 10%) at 40°C  
 Ambient temperature 20°C

Note: Specifications subject to change

**MINI PUMP-MOTOR COMBINATIONS**  
 MINI GROUPES ELECTRO POMPES **2G**

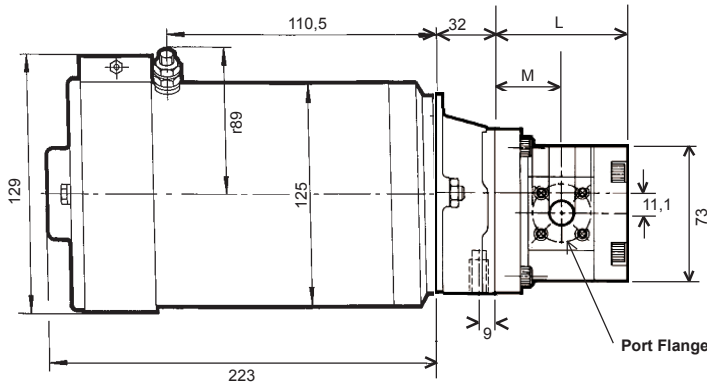
**TYPE BS - 24 VDC: 2,2kW**



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# MOTOR SPECIFICATIONS - DIRECT CURRENT

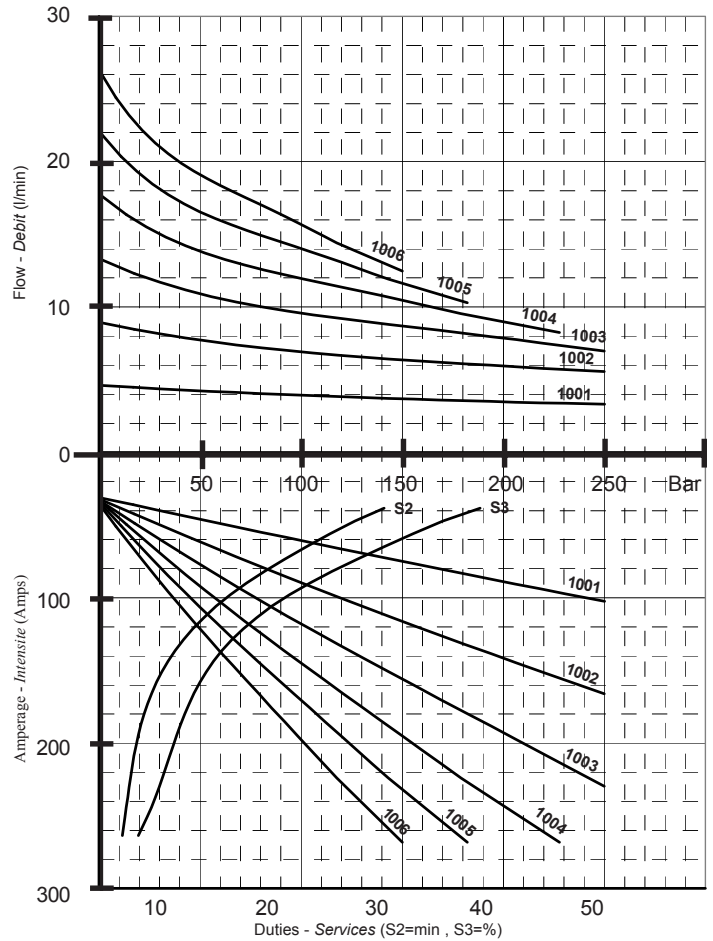
## SPECIFICATION MOTEUR - COURANT CONTINU



PUMP TYPE TYPE de POMPE	M	L
1001 to 1003	35,9	72,6
1004 <sup>a</sup> 1006	40,7	82,4

SPECIFICATIONS	
CODE CODE	<b>CI2</b>
VOLTAGE TENSION	<b>24VDC</b>
REFERENCE REFERENCE	111895
NOMINAL POWER PUISSANCE NOM.	<b>3 kW</b>
S3 S3	15%
PROTECTION PROTECTION	IP44
MASS MASSE	13 Kg

PUMPS POMPES		PRESSURE - PRESSION DUTIES - SERVICES							
		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	4,6	4,2	3,9	3,7	3,6	3,5	3,4	3,3
	I	32,5	45,9	60,6	75	82	88,9	95,7	102,4
	S2	30	25,7	21,6	18	16,3	14,8	13,4	12,2
	S3	41,6	34,5	29,6	25,1	23	21,1	19,4	17,8
1002	Q	8,8	7,7	6,9	6,4	6,1	5,9	5,7	5,6
	I	34,8	61,4	89,6	116,2	129	141,5	153,8	166
	S2	29,7	21,4	14,7	10	8,3	7	6	5,2
	S3	39,8	29,3	20,9	15,1	13,1	11,6	10,3	9,4
1003	Q	13	10,9	9,6	8,7	8,3	7,9	7,4	7
	I	37,4	77,1	118	155,9	174,4	192,8	211,3	229,6
	S2	28,6	17,5	9,7	5,9	4,7	4	3,4	3
	S3	38,2	24,4	14,8	10,2	8,8	7,8	6,9	6
1004	Q	17,2	13,8	12	10,5	9,7	8,9	8,3	225 bar max
	I	39	92	145	195,1	220	244,3	266,2	
	S2	27,9	14,2	6,7	3,9	3,2	2,7	2,3	
	S3	37,4	20,3	11,2	7,7	6,5	5,2	3,7	
1005	Q	21,3	16,6	14	11,6	10,5	180 bar max		
	I	41,6	106,5	170,5	232,5	261,1			
	S2	27,1	11,5	4,9	2,9	2,4			
	S3	36,2	17	9,1	5,8	4,1			
1006	Q	25,1	19,1	15,7	12,5	150 bar max			
	I	44,5	121,5	197,6	268,3				
	S2	26,2	9,3	3,8	2,2				
	S3	35,1	14,2	7,6	3,6				



- Q:** Flow (l/min) / Debit (l / min)
- I:** Amperage / Intensite en Amperes
- S1:** Continuous Duty / Service Continu
- S2:** Temporary Duty (min) / Service Temporaire (min)
- S3:** Intermittent Duty (10% of 10 min) / Service Intermittent (10% de 10 min)
- ID:** Starting Amperage / Intensite de demarrage: 900 Amps

HPI advises recommending Shell Tellust  
 SHELL TELLUST VISCOSITE : selon specifications techniques  
 VISCOSITY : according to technical specifications  
 VISKOSITÄT : gemäß technischen Spezifikationen

Curves drawn using Shell Tellust T46  
 Viscosity of 46 cST (+/- 10%) at 40°C  
 Ambient temperature 20°C

Note: Specifications subject to change

**MINI PUMP-MOTOR COMBINATIONS**  
**MINI GROUPES ELECTRO POMPES** **2G**

TYPE  
TYPE

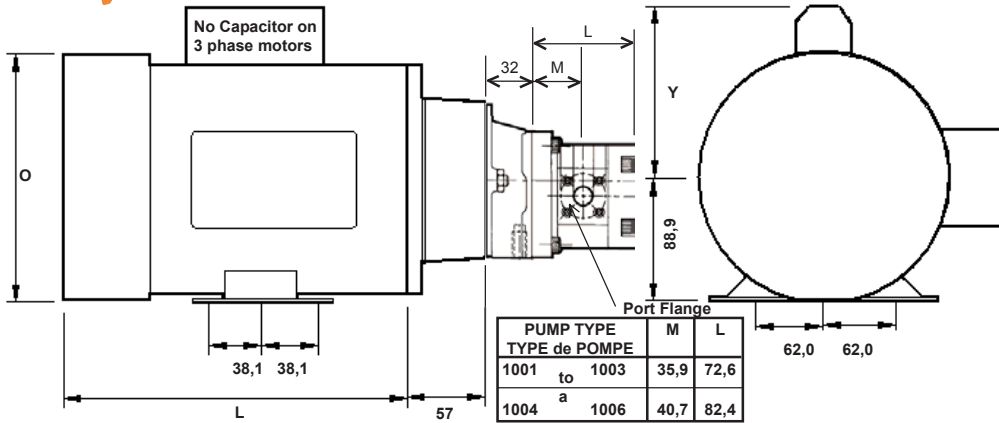
**CI - 24 VDC: 3 kW**



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# MOTOR SPECIFICATIONS - AC CURRENT

## SPECIFICATION MOTEUR - COURANT CA



MODEL	Capacity cm <sup>3</sup> /rev	P3 Bar	Nominal Flow	
			1725 RPM l/min	3450 RPM l/min
1001	1,02	300	1,62	3,35
1002	2,05	300	3,26	6,73
1003	3,07	300	4,89	10,14
1004	4,09	250	6,59	13,52
1005	5,12	200	8,41	17,08
1006	6,14	150	10,09	20,49

Note! Above flow ratings are calculated using the maximum continuous pressure and volumetric efficiency at the specified RPM. Consult performance graphs for further info.

MOTOR MOTEUR		115 / 230V, SINGLE PHASE SPECIFICATIONS - SPECIFICATION						
HP	RPM t/min	L	O	Y	AB	Amps Intensité	Weight Masse	Reference Reference
0.25	1725	194	167	111	117	2,1	9,6	101053C/L
	3450							
0.33	1725	227	181	125	135	2,9	9,6	M002256C/L <sup>6</sup>
	3600	207	162	113	na	2,2	9,1	G534
0.50	1725	227	181	125	135	3,9	10,9	M009086C/L <sup>6</sup>
	3450	223	180	141	136	3,6	10	110399C/L
0.75	1725	235	180	141	135	5,4	11,8	110087C/L <sup>6,7</sup>
	3600	261		123	142	5,3	12,7	D312
1.00	1725	248	180	141	136	7,0	15,9	114466 <sup>6</sup>
	3450	248	180	141	136	6,0	13,6	114475C/L <sup>6</sup>
1.50	1725	273	180	119	135	8,6	18,6	110089C/L <sup>6,7</sup>
	3450	261	180	134	135	8,5	15,5	110909
2.00	1725	297	180	126	135	9,2	19,5	110090C/L <sup>5,7,8</sup>
	3450	286	180	134	135	10	20,9	113931
3.00	1725							
	3450	297	182	128	136	14	21	120341MOD <sup>8</sup>

MOTOR MOTEUR		230 / 460V, THREE PHASE SPECIFICATIONS - SPECIFICATION						
HP	RPM t/min	L	O	Y	AB	Amps Intensité	Weight Masse	Reference Reference
0.25	1725	194	167	0	117	0,7	8,7	101078C/L
	3450							
0.33	1725	194	168	0	117	0,8	8,2	101079C/L
	3600	213	172	0	na	0,9	9,5	D390
0.50	1725	201	169	0	117	1,0	10,9	100913C/L
	3450	212	172	0	na	0,75	11,4	110143C/L
0.75	1725	223	183	0	135	1,4	10	110034C/L
	3600	248		0	142	1,6	10,5	D392
1.00	1725	235	183	0	135	1,9	11,4	110035C/L
	3450	223	183	0	133	1,6	10,9	110181
1.50	1725	248	180	0	135	2,5	13,6	110444C/L
	3450	248	180	0	133	2,1	13,2	110917
2.00	1725	272	180	0	135	3,1	15,7	113026C/L
	3450	261	180	0	133	2,8	15,5	113927
3.00	1725							
	3450	273	180	0	135	4,0	17,1	114615
5.00	1725	0	0	0	0	0	0	
	3450	299	182	0	135	6,5	20,7	116417

MOTOR MOTEUR		575V, THREE PHASE SPECIFICATIONS - SPECIFICATION						
HP	RPM t/min	L	O	Y	AB	Amps Intensité	Weight Masse	Reference Reference
0.25	1725	194	167	0	117	0,5	6,8	101050C/L
	3450							
0.33	1725	194	167	0	117	0,6	8,7	101052C/L
	3600	na	175	0	131	0,8	9,5	K702
0.50	1725	201	169	0	117	na	na	101907C/L
	3600	248	187	0	142	0,9	na	K704
0.75	1725	223	183	0	135	1,1	10	110178C/L
	3600	248	187	0	142	1,3	na	K706
1.00	1725	248	180	0	136	1,4	14,1	114467 <sup>1</sup>
	3450	223	180	0	136	1,3	10,9	114468 <sup>1</sup>
1.50	1725	248	180	0	135	2,0	13,6	110893C/L
	3600	248	187	0	142	1,85	na	K721
2.00	1725	261	180	0	136	2,5	16,8	114327C/L
	3450	261	180	0	135	2,2	15,5	111611C/L
3.00	1800	324	187	0	142	3,4	20	G591
	3450	273	180	0	136	3,2	19,6	115597
5.00	1725	0	0	0	0	0	0	160280MOD <sup>5</sup>
	3450	0	0	0	0	0	0	160278MOD <sup>5</sup>

Specifications subject to change, we reserve the right to substitute motors, please advise sales dept of any specific requirements.  
 Amp ratings are at the "high" voltage.

**Footnotes**

1. Dual rated 50/60hz (2850/3450 RPM) (1425/1725 RPM)
5. Modified to 56C face
6. Manual thermal protection
7. Red industrial motor
8. 230V only

Pump Flow Output	HP Required for continuous duty.	Common Conversion Factors
$LPM = \frac{cm^3/rev \times RPM \times Eff(v)}{1000}$	$HP = \frac{LPM \times Bar}{402}$	$GPM = LPM / 3.785$
$GPM = \frac{cm^3/rev \times RPM \times Eff(v)}{3785}$	$HP = \frac{GPM \times PSI}{1542}$	$psi = Bar \times 14.5$
	Note! efficiency is already taken into account in above formulas.	$lbs = Kg \times 2.2$
		$ln^3 = cm^3 / 16.39$
		$HP = kW / 0.745$
		$CFM = (l/s) / 0.467$

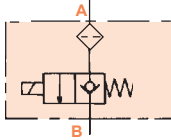
Eff(v) may be estimated at between 0.93 and 0.98 Efficiency increases with pump size and RPM.

**MINI PUMP-MOTOR COMBINATIONS**  
 MINI GROUPES ELECTRO POMPES **2G**

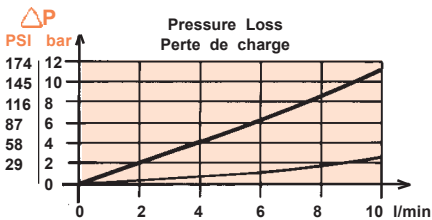
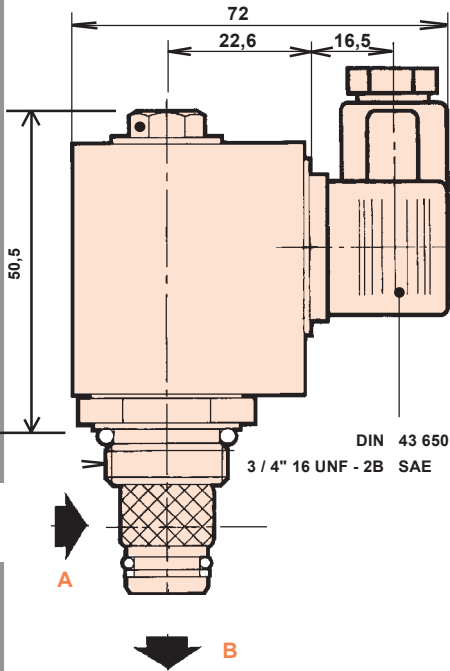
**TYPE AC- NEMA FRAME**



V.N.F 2G

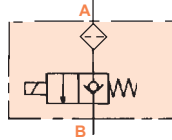


**Normally Closed Valve**  
**Valve Normalement Fermée**  
**2G - 10L/MIN**

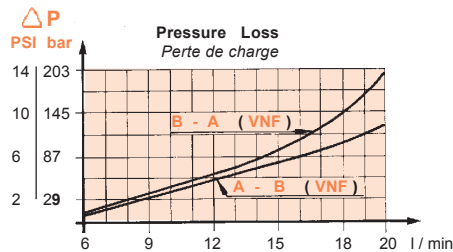
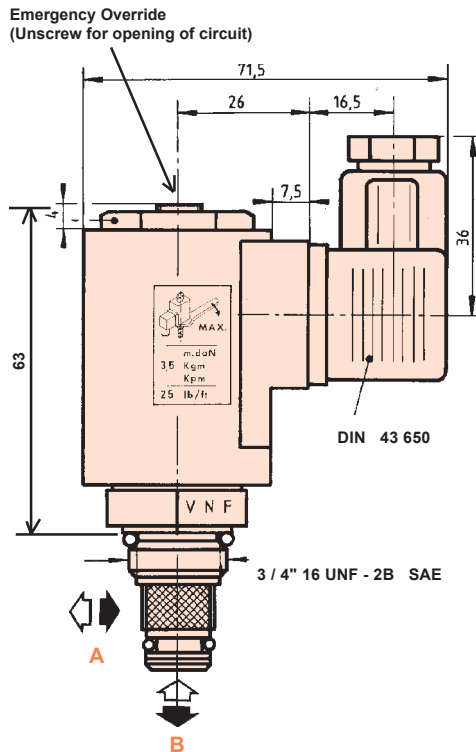


Specifications / Specifications		
Voltage / Tension	Power	P3 (Bar) / P3 (Bar)
12 VDC	1,5 A	300
24 VDC	0,7 A	300
24 VRAC	0,7 A	300
110 VRAC	0,2 A	300
220 VRAC	0,1 A	300

V.N.F



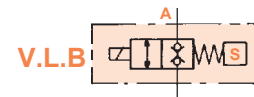
**Normally Closed Valve**  
**Valve Normalement Fermée**  
**1G - 20L/MIN**



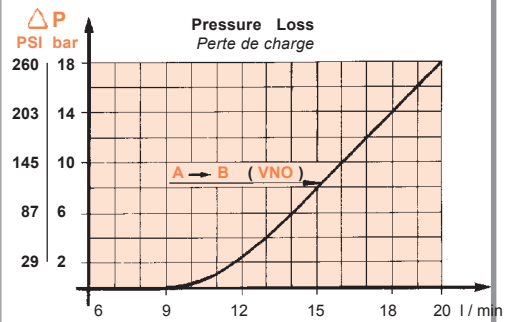
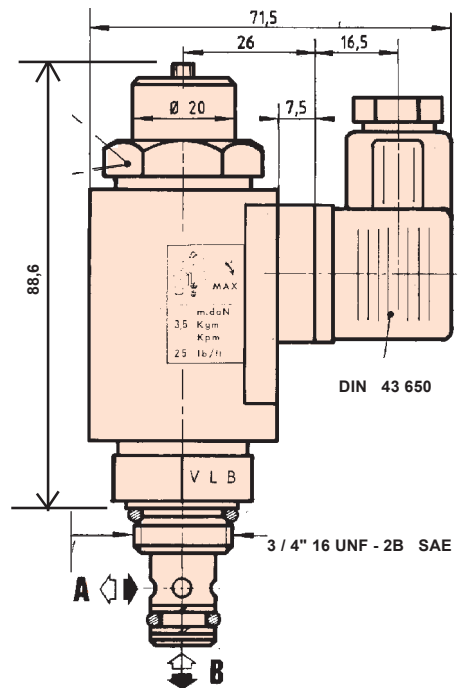
Specifications / Specifications		
Voltage / Tension	Power	P3 (Bar) / P3 (Bar)
12 VDC	16 W	300
24 VDC	16 W	300
24 VRAC	26VA	300
110 VRAC	26VA	300
220 VRAC	26VA	300



**Normally open valve**  
**Valve Normalement Ouverte**  
**1G - 20L/MIN**



**Double Lock Valve**  
**Valve Logique Bi-directionnelle**  
**1G - 20L/MIN**



Specifications / Specifications		
Voltage / Tension	Power	P3 (Bar) / P3 (Bar)
12 VDC	16 W	300
24 VDC	16 W	300
24 VRAC	26VA	300
110 VRAC	26VA	300
220 VRAC	26VA	300



**PROPORTIONAL VALVE**  
**VALVE PROPORTIONNELLE**

**HYDRAULIC CHARACTERISTICS**

(SHELL Tellus Oil T46 at 40°C - 46 Cst)

Oil temperature : from -15°C to +80°C  
 Optimal viscosity range : from 12 Cst to 100 Cst  
 Max. Leakage : 10 cc in 5 min  
 Repeatability : 50 to 100 % of Max. flow +/- 1%  
 Response time : approximately 100ms

Nominal voltage : 24 V  
 Mini - Max. battery voltage : 16,8 V - 28,8 V  
 S2 Duty : 5 min  
 S3 Duty : 20% of 10 minute  
 Current consumption: 300 mA Max  
 Protection index : IP65 according to DIN 40050  
 Emergency control : Closed position in case of power cut off  
 Control voltage : 0,7 V to 10 V



**CARACTERISTIQUES HYDRAULIQUES**

(Huile SHELL Tellus T46 à 40°C - 46 Cst)

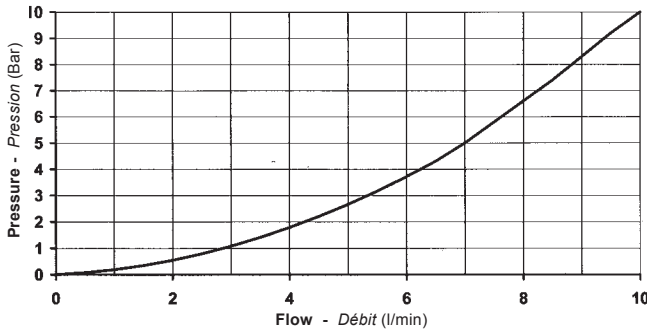
Température de l'huile: de -15°C à +80°C  
 Plage de viscosité optimale: de 12 Cst à 100 Cst  
 Fuite Maxi: 10 cc en 5 min  
 Répétabilité: 50 to 100 % du débit Maxi +/- 1%  
 Temps de réponse: environ 100ms

Tension Nominale: 24 V  
 Tension Mini-Maxi batterie: 16,8 V - 28,8 V  
 Service S2: 5 min  
 Service S3: 20% de 10 min  
 Courant de consommation: 300mA Maxi  
 Indice de protection: IP65 suivant DIN 40050  
 Commande de secours: Fermée en cas de coupure du courant  
 Tension de commande: 0,7 V à 10 V

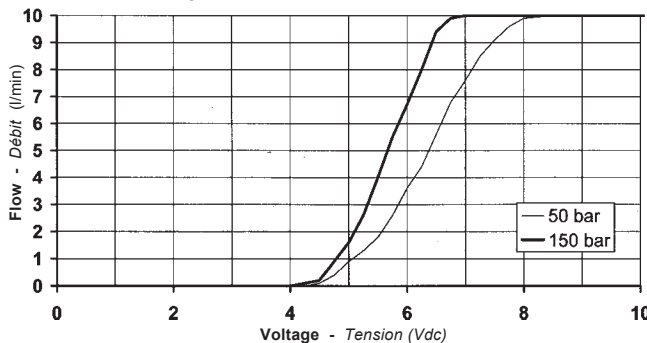
**Reference: C5089984**  
**10 l / min**

Max. flow : 10 l / min  
 Max. Pressure : 250 bar  
 Outlet Max. pressure : 8 bar

**Pressure Loss**  
*Perte de charge*



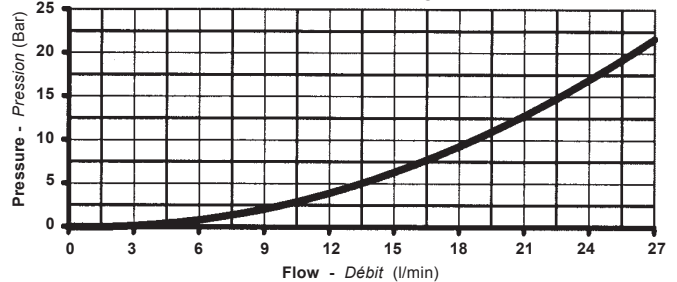
**Progressivity according to Voltage**  
*Progressivité en fonction de la Tension*



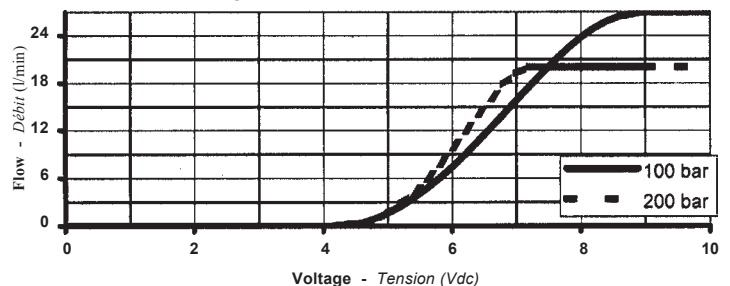
**Reference: C5089985**  
**27 l / min**

Max. flow : 27 l / min  
 Max. Pressure : 200 bar up to 18l/min  
 Outlet Max. pressure : 4 bar

**Pressure Loss**  
*Perte de charge*



**Progressivity according to Voltage**  
*Progressivité en fonction de la Tension*







**REPLACEMENT PARTS - MINI 2G PUMP MOTOR COMBINATIONS**

**MOTORS**

AC	0.25 - 5HP	See Pg. 14
DS1	1,3 kW 12VDC	114133
DS2	1,5 kW 24VDC	114134
BK1	2,1 kW 12VDC	114806
BK2	2,2 kW 24VDC	113349
BS2	2,2 kW 24VDC	113305
CI2	3,0 kW 24VDC	111895

**RELAYS**

RELAY: 80 AMP - 12VDC	E5080303
RELAY: 80 AMP - 24VDC	E5074322
RELAY: 150 AMP - 12VDC	E5085534
RELAY: 150 AMP - 24VDC	E5085533
BRAID CONNECTOR	101809

**COUPLINGS**

COUPLING: AC 5/8" Shaft	L075-5/8-3/16
COUPLING: AC Insert	L075-SOX
COUPLING: AC Pump Half	L075-10mm
COUPLING: DS, BK, BS Motors	111182
COUPLING: CI Motor	104971

**BELLHOUSING**

BELLHOUSING: 56C (for AC Motors)	HPI-9471MOD
BELLHOUSING: CBN	101790

**PUMPS**

1CC (L20 SHAFT)	P1CBN1001CL20C01
2CC (For AC Motors)	P1CBN1002CL20C01
3CC "	P1CBN1003CL20C01
4CC "	P1CBN1004CL20C01
5CC "	P1CBN1005CL20C01
6CC "	P1CBN1006CL20C01
1CC (L40 SHAFT)	P1CBN1001CL40C02
2CC (For DC Motors)	P1CBN1002CL40C02
3CC	P1CBN1003CL40C02
4CC	P1CBN1004CL40C02
5CC	P1CBN1005CL40C02
6CC	P1CBN1006CL40C02

**PORT FLANGES**

PORT FLANGE: 3/8" NPT	1PH-N038
PORT FLANGE: #6 SAE	1PH-S6

**ADAPTORS**

3/8 BSPP Plug	9028-06
3/8 BSPP x 1/2" Hose Barb	AGR-0806
3/8 BSPP x #6JIC Male	9002-0606
3/8 BSPP x #8JIC Male	9002-0806

**SEAL KITS**

SHAFT SEAL, NITRILE	100998
SEAL KIT, NITRILE	K5074037
SHAFT SEAL, VITON	101505
SEAL KIT, VITON	K5074038

**CARTRIDGE VALVES, 2 WAY**

VNF2G: 12 VDC (normally closed)	C5084513
VNF2G: 24 VDC "	C5084514
VNF2G: 24VRAC "	C5094325
VNF2G: 115 VRAC "	C5086855
VNF2G: 230 VRAC "	C5086854
VNF: 12 VDC (normally closed)	C5035300
VNF: 24 VDC "	C5035310
VNF: 24 VRAC "	C5072507
VNF: 115 VRAC "	C5048410
VNF: 230 VRAC "	C5048420
VNO: 12 VDC (normally open)	C5068370
VNO: 24 VDC "	C5068380
VNO: 24 VRAC "	C5072505
VNO: 115 VRAC "	C5071251
VNO: 230 VRAC "	C5071252
VLB: 12 VDC (double check)	C5067470
VLB: 24 VDC "	C5067480
VLB: 24 VRAC "	C5072509
VLB: 115 VRAC "	C5071260
VLB: 230 VRAC "	C5071261

**CARTRIDGE VALVES, PROPORTIONAL**

VNF: 10 l/m	C5089984
VNF: 27 l/m	C5089985

**COILS & CONNENCTORS:**

VNF2G COIL: 12 VDC	112344
VNF2G COIL: 24 VDC	112345
VNF2G COIL: 24 VRAC	
VNF2G COIL: 115 VRAC	112809
VNF2G COIL: 230 VRAC	112808
VNF/VNO/VLB COIL: 12 VDC	E5072140
VNF/VNO/VLB COIL: 24 VDC	E5072141
VNF/VNO/VLB COIL: 24 VRAC	E5072513
VNF/VNO/VLB COIL: 115 VRAC	E5072145
VNF/VNO/VLB COIL: 230 VRAC	E5072146
DIN CONNECTOR - DC COILS	102291
DIN CONNECTOR - AC COILS	104097

*(connector is included with AC Coils)*

**PLEASE NOTE! THE PARTS LISTED ON THIS PAGE MAY DIFFER FOR UNITS ASSEMBLED IN FRANCE. PLEASE CONTACT HPI CANADA FOR FURTHER INFORMATION.**



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