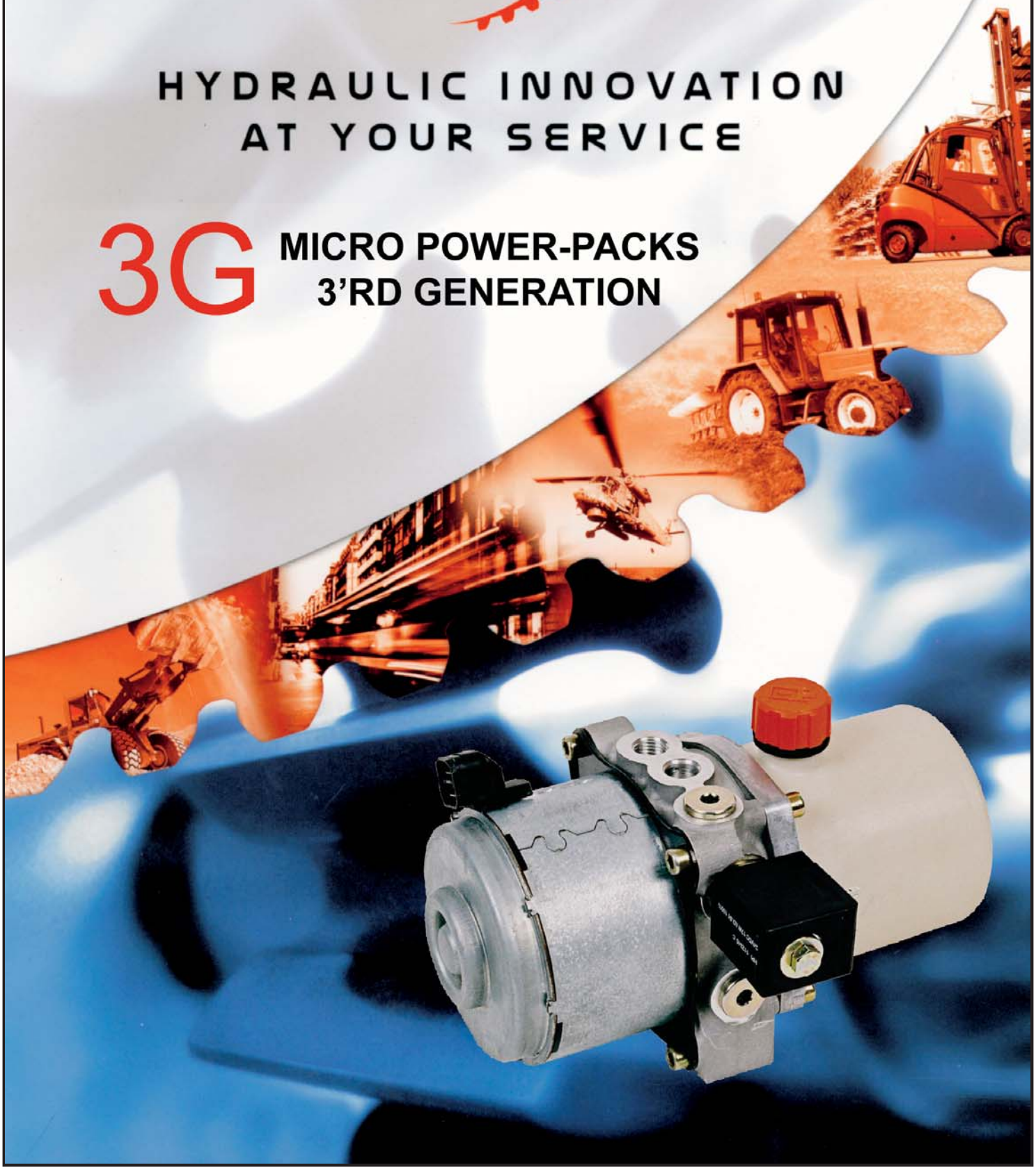
CAT: MICRO 3G-07
PUBLISHED: 05/2007
North American Catalog

HPI

HYDRAULIC INNOVATION AT YOUR SERVICE



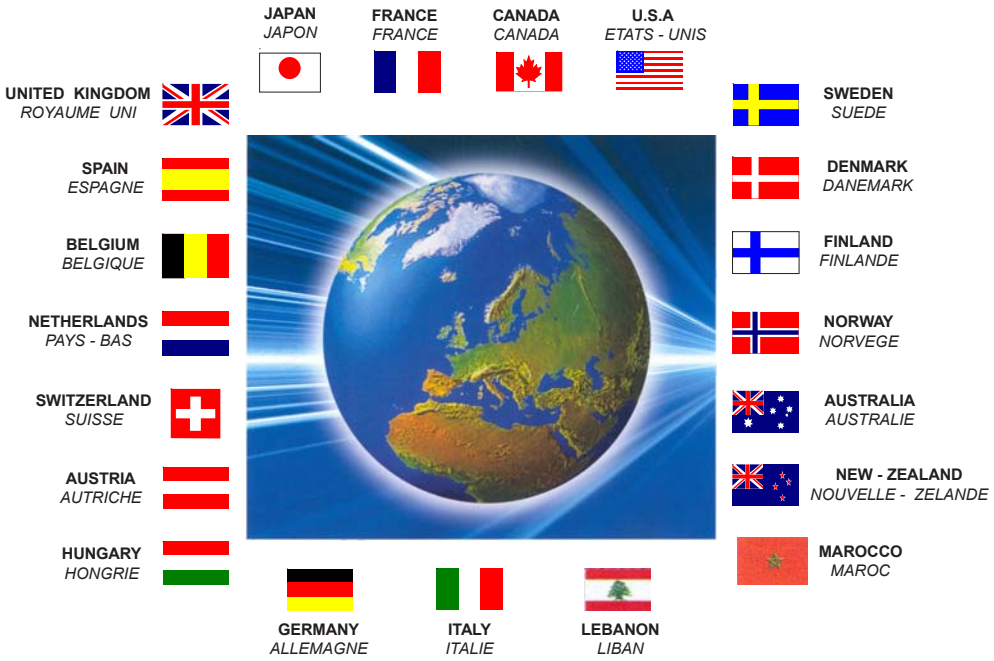
3G MICRO POWER-PACKS 3'RD GENERATION

Hydroperfect Intl. Inc.
North America
Tel: (905) 791-3388
Fax: (905) 791-7322

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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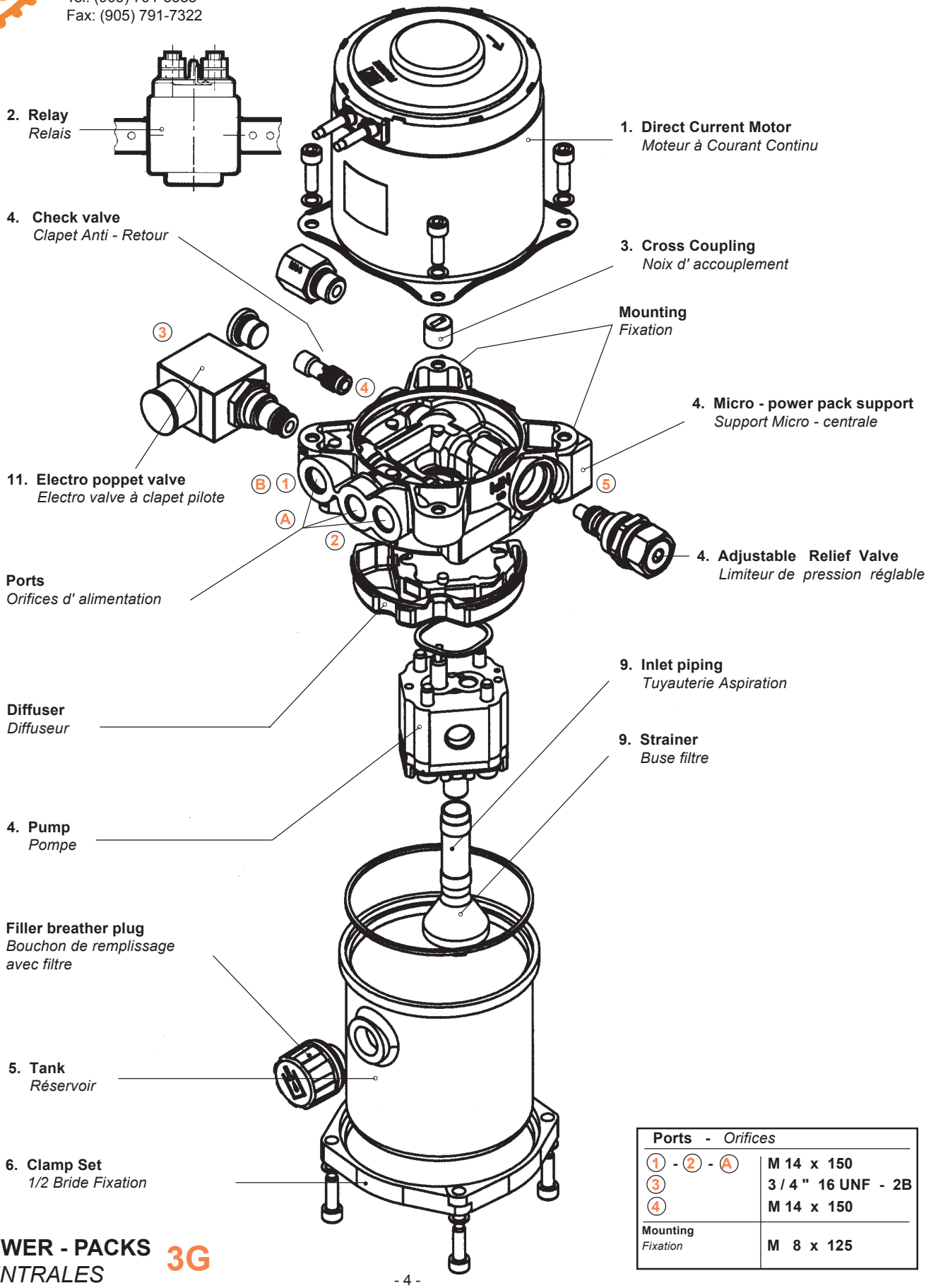

Ports - *Orifices*	
(1) - (2) - (A)	M 14 x 150
(3)	3 / 4 " 16 UNF - 2B
(4)	M 14 x 150
Mounting *Fixation*	M 8 x 125

MICRO POWER - PACKS **3G**
MICRO CENTRALES

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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 a Reservoir.
In single acting applications it is generally recommended to use a reservoir size that is at least 25% larger than the total system oil capacity. In continuous duty applications several factors must be taken into consideration, most importantly the reservoir must be sized to provide sufficient oil cooling.

Selecting Control Valves.
The final step in constructing the powerpack is to determine the valve combination that will be required for controlling all the actuators. It should be noted that valve combinations may be created by using two or more different valves and/or blocks. 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.

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.)

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.

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. Turning the adjustment screw clockwise will increase the pressure, turning counterclockwise will decrease the pressure.

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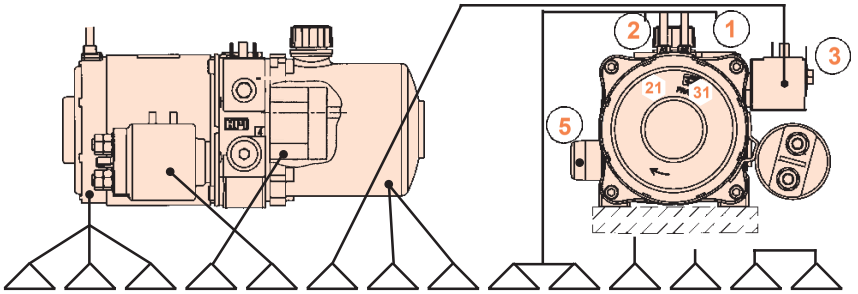
MICRO 3G POWERPACKS

DIRECT CURRENT

(NORTH AMERICAN FORMAT)

REVISION 3 - 05/2007



North American **N**

N	0	3	H	F	2	050	TR	44	A	1	2X	X	G	X	N	####

RELIEF SETTING (PSI)

PUMP TYPE — 0

GENERATION — 3

MOTOR TYPE

NO MOTOR		000
0,4 kW	12 Vdc	MF1
0,4 kW	24 Vdc	MF2
1,0 kW	24 Vdc	HF2
0,9 kW	12 Vdc	AF1
1,2 kW	24 Vdc	AF2
SPECIAL		***

PUMP CAPACITY

0,25 cc / rev	0,015 Cubic Inch	025
0,50 cc / rev	0,030 Cubic inch	050
0,75 cc / rev	0,045 Cubic Inch	075
1,00 cc / rev	0,060 Cubic Inch	100
1,25 cc / rev	0,075 Cubic Inch	125
1,50 cc / rev	0,090 Cubic Inch	150
2,00 cc / rev	0,120 Cubic Inch	200

SHAFT TYPE / RELAY

TANG SHAFT, NO RELAY	TX
TANG SHAFT, WITH RELAY	TR

VALVES - MOUNTED ON PORT 3

NONE, PORTS BLOCKED — XX

	Cartridge valves 2 way				Cartridge valves 4 way	
	VNF	VNO	VLB	VNF2G	CT3	CT2
12VDC	12	22	32	42	52	72
24VDC	14	24	34	44	54	74
24VAC	15	25	35	45	55	75
48VAC	17	27	37	47	57	77
115VAC	11	21	31	41	51	71
230VAC	13	23	33	43	53	73
AIR PILOT	19	29	39			

3 WAY WITH FREEFLOW	40
PROPORTIONAL VALVE 10L/MIN	90
PROPORTIONAL VALVE 20L/MIN	91
SPECIAL	**

VNF = NORMALLY CLOSED. <20L/M
VNF2G = NORMALLY CLOSED. <10L/M (no override!)
VNO = NORMALLY OPEN.
VLB = DOUBLE LOCK.
CT3 - 4/3 WAY, TANDEM CENTRE. (note! use "BA" for the porting -->)
CT2 = 4/2 WAY. (note! use "BA" for the porting -->)

TANKS

NO RESERVOIR		X					
0,5 L	0.13 Gal	F	3,3 L	0,87 Gal	M	14 L	3.70 Gal Y
0,75 L	0.20 Gal	W	4,0 L	1.05 Gal	S	20 L	5.28 Gal La
1,0 L	0.26 Gal	P	5,0 L	1.32 Gal	C	30 L	7.92 Gal Ma
1,5 L	0.40 Gal	E	6,0 L	1.58 Gal	Z	44 L	11.6 Gal Na
2,0 L	0.53 Gal	A	6,0 L	1.58 Gal	U	70 L	18.5 Gal Oa
2,5 L	0.66 Gal	H	6,3 L	1.66 Gal	G	SPECIAL	*
3,0 L	0.79 Gal	B	6,5 L	1.71 Gal	Qa		
			12 L	3.17 Gal	Da		

RELIEF VALVE

P	SEALED
N	NOT SEALED

FLOW LIMITOR (Port 21)

X	Without Flow Limitor
#	USE SAME CODES AS BELOW

FLOW LIMITOR (Port 31)

X Without flow restrictor or flow limitor

A	1,2 l/m	F	5,6 l/m	N	11,2 l/m
B	2,3 l/m	G	6,7 l/m	Q	13,8 l/m
C	3,3 l/m	J	7,7 l/m	R	16,2 l/m
E	4,4 l/m	L	9,5 l/m		
*	Special				

VOLTAGE - OPTIONAL VALVES

X	NOT APPLICABLE
2	12 VDC
4	24 VDC
5	24 VAC
1	115 VAC
3	230 VAC
9	AIR PILOT
*	SPECIAL

(SEPERATE MULTIPLE OPTIONS WITH " / ")

PORTING / OPTIONAL VALVES MOUNTED ON PORTS 1 & 2

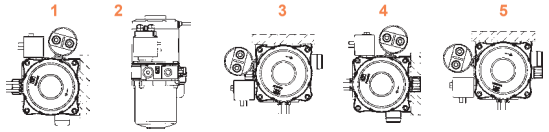
10	Port 1 Only
11	Port 1 Only, with flow limitor on port 31
13	Port 1 Only, with flow limitor on port 3
20	Port 1 & Port 2
21	Port 1 & Port 2, with flow limitor on port 31
23	Port 1 & Port 2, with flow limitor on port 3
60	Port 4 Only
61	Port 4 Only, with flow limitor on port 31
63	Port 4 Only, with flow limitor onport 3
VF	VNF IN BLOCK
VB	VLB IN BLOCK
AF	ADJUSTABLE FLOW CONTROL - PORT 1
**	SPECIAL

XA	3 WAY FREE FLOW VALVE(DOCK LEVELER)
BA	4/2 OR 4/3 CARTRIDGE VALVE IN SUPPORT
25	CETOP 3 - BASEPLATE ONLY
C2	CETOP 3 - 2 POSITION
CC	CETOP 3 - 3 POS, CLOSED CENTRE
CO	CETOP 3 - 3 POS, OPEN CENTRE
CY	CETOP 3 - 3 POS, Y CENTRE
CT	CETOP 3 - 3 POS, TANDEM CENTRE
CP	CETOP 3 - DUAL PO CHECK
CF	CETOP 3 - DUAL FLOW CONTROL
CB	CETOP 3 - DUAL COUNTERBALANCE VALVE
PG	PRESSURE GAUGE
F3	FILTER, 5 MIC, OIL THROUGH PORT 31
F2	FILTER, 5 MIC, OIL THROUGH PORT 21

MOUNTING POSITION

See page 26 for more detailed information.

* SPECIAL



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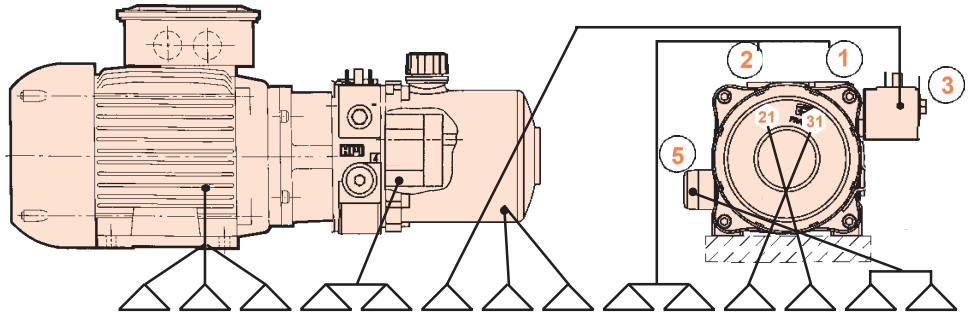
MICRO 3G POWERPACKS
ALTERNATING CURRENT
(NORTH AMERICAN FORMAT)

REVISION 3 - 05/2007



North American **N**

N	0	3	Y	6	X	125	TX	41	A	1	##	X	G	X	N	####

RELIEF SETTING (PSI)

PUMP TYPE 0

GENERATION 3

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
4.00 HP(AIR)	Z
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
42 FRAME MOTOR	L
48 FRAME MOTOR	M
SPECIAL	*

PUMP CAPACITY

0,25 cc / rev	0,015 Cubic Inch	025
0,50 cc / rev	0,030 Cubic Inch	050
0,75 cc / rev	0,045 Cubic Inch	075
1,00 cc / rev	0,060 Cubic Inch	100
1,25 cc / rev	0,075 Cubic Inch	125
1,50 cc / rev	0,090 Cubic Inch	150
2,00 cc / rev	0,120 Cubic Inch	200

SHAFT TYPE / RELAY

TANG SHAFT, NO RELAY TX

VALVES - MOUNTED ON PORT 3

NONE, PORTS BLOCKED XX

	Cartridge valves 2 way				Cartridge valves 4 way	
	VNF	VNO	VLB	VNF2G	CT3	CT2
12VDC	12	22	32	42	52	72
24VDC	14	24	34	44	54	74
24VAC	15	25	35	45	55	75
48VAC	17	27	37	47	57	77
115VAC	11	21	31	41	51	71
230VAC	13	23	33	43	53	73
AIR PILOT	19		39			

3 WAY WITH FREEFLOW	40
PROPORTIONAL VALVE 10L/MIN	90
PROPORTIONAL VALVE 20L/MIN	91
SPECIAL	**

VNF = NORMALLY CLOSED. <20L/M
VNF2G = NORMALLY CLOSED. <10L/M (no override!)
VNO = NORMALLY OPEN.
VLB = DOUBLE LOCK.
CT3 - 4/3 WAY, TANDEM CENTRE. (note! use "BA" for the porting -->)
CT2 = 4/2 WAY. (note! use "BA" for the porting -->)

TANKS

NO RESERVOIR		X	3,3 L	0,87 Gal	M	14 L	3.70 Gal	Y
0,5 L	0.13 Gal	F	4,0 L	1.05 Gal	S	20 L	5.28 Gal	La
0,75 L	0.20 Gal	W	5,0 L	1.32 Gal	C	30 L	7.92 Gal	Ma
1,0 L	0.26 Gal	P	6,0 L	1.58 Gal	Z	44 L	11.6 Gal	Na
1,5 L	0.40 Gal	E	6,0 L	1.58 Gal	U	70 L	18.5 Gal	Oa
2,0 L	0.53 Gal	A	6,3 L	1.66 Gal	G	SPECIAL		*
2,5 L	0.66 Gal	H	6,5 L	1.71 Gal	Qa			
3,0 L	0.79 Gal	B	12 L	3.17 Gal	Da			

RELIEF VALVE

P	SEALED
N	NOT SEALED

FLOW LIMITOR (Port 21)

X	Without Flow Limitor
#	USE SAME CODES AS BELOW

FLOW LIMITOR (Port 3 or 31)

X Without flow limitor

A	1,2 l/m	F	5,6 l/m	N	11,2 l/m
B	2,3 l/m	G	6,7 l/m	Q	13,8 l/m
C	3,3 l/m	J	7,7 l/m	R	16,2 l/m
E	4,4 l/m	L	9,5 l/m		
*	Special				

VOLTAGE - OPTIONAL VALVES

X	NOT APPLICABLE
2	12 VDC
4	24 VDC
5	24 VAC
1	115 VAC
3	230 VAC
9	AIR PILOT
*	SPECIAL

(SEPERATE MULTIPLE OPTIONS WITH " / ")

PORTING / OPTIONAL VALVES MOUNTED ON PORTS 1 & 2

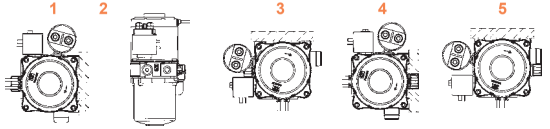
10	Port 1 Only
11	Port 1 Only, with flow limitor on port 31
13	Port 1 Only, with flow limitor on port 3
20	Port 1 & Port 2
21	Port 1 & Port 2, with flow limitor on port 31
23	Port 1 & Port 2, with flow limitor on port 3
60	Port 4 Only
61	Port 4 Only, with flow limitor on port 31
63	Port 4 Only, with flow limitor on port 3
VF	VNF IN BLOCK
VB	VLB IN BLOCK
AF	ADJUSTABLE FLOW CONTROL - PORT
**	SPECIAL

XA	3 WAY FREE FLOW VALVE(DOCK LEVELER)
BA	4/2 OR 4/3 CARTRIDGE VALVE IN SUPPORT
25	CETOP 3 - BASEPLATE ONLY
C2	CETOP 3 - 2 POSITION
CC	CETOP 3 - 3 POS, CLOSED CENTRE
CO	CETOP 3 - 3 POS, OPEN CENTRE
CY	CETOP 3 - 3 POS, Y CENTRE
CT	CETOP 3 - 3 POS, TANDEM CENTRE
CP	CETOP 3 - DUAL PO CHECK
CF	CETOP 3 - DUAL FLOW CONTROL
CB	CETOP 3 - DUAL COUNTERBALANCE VALVE
PG	PRESSURE GAUGE
F3	FILTER, 5 MIC, OIL THROUGH PORT 31
F2	FILTER, 5 MIC, OIL THROUGH PORT 21

MOUNTING POSITION

See page 26 for more detailed information.

* SPECIAL



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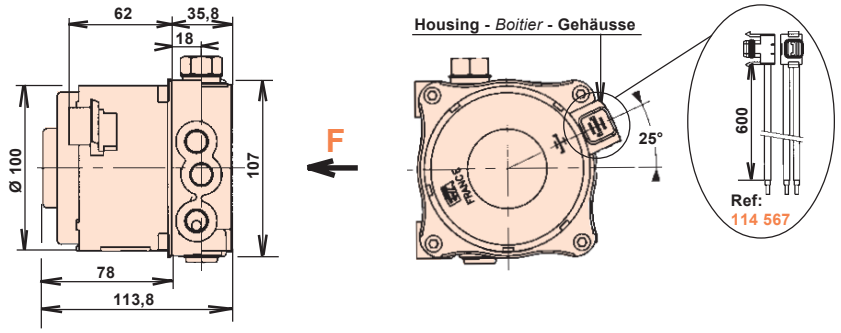
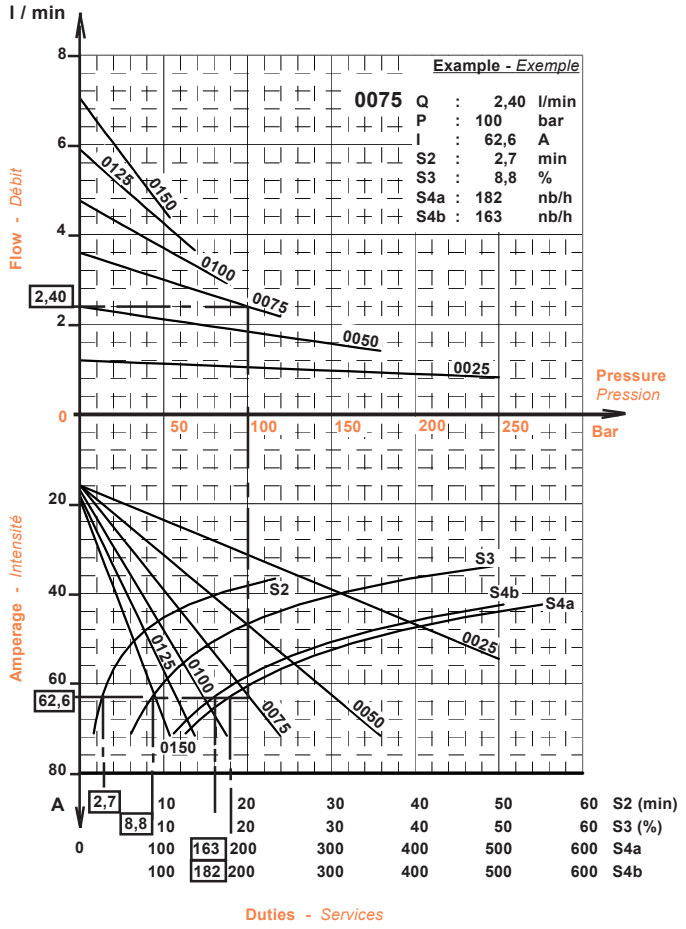
MOTOR SPECIFICATIONS - DIRECT CURRENT
SPECIFICATION MOTEUR - COURANT CONTINU



SPECIFICATIONS	
CODE *CODE*	**MF1**
VOLTAGE *TENSION*	**12VDC**
REFERENCE *REFERENCE*	114223
NOMINAL POWER *PUISSANCE NOM.*	**0,4 kW**
S3 *S3*	10%
PROTECTION *PROTECTION*	na
MASS *MASSE*	1,8 Kg

PUMPS *POMPES*		12 V PRESSURE - *PRESSION* 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
0025	Q	1,19	1,12	1,04	0,96	0,93	0,89	0,85	0,82
	I	16,7	23,6	31,4	39,1	43,0	46,8	50,7	54,5
	S2	30	30	30	18,1	12,4	8,8	6,4	4,7
	S3	50	50	50	33	25,3	19,8	15,9	12,9
	S4a	600	600	600	600	533	417	332	269
	S4b	600	600	600	600	488	380	301	243
0050	Q	2,37	2,11	1,83	1,57	1,43			
	I	17,4	31,4	47,0	62,5	70,3			
	S2	30	30	8,6	2,7	1,7			
	S3	50	50	19,6	8,8	6,3			
	S4a	600	600	412	182	130			
	S4b	600	600	376	163	116			
							185 bar Max		
0075	Q	3,53	2,99	2,40					
	I	18,2	39,2	62,6					
	S2	30	17,9	2,7					
	S3	50	32,7	8,8					
	S4a	600	600	182					
	S4b	600	600	163					
							120 bar Max		
0100	Q	4,65	3,70						
	I	20,1	48,2						
	S2	30	7,8						
	S3	50	18,3						
	S4a	600	383						
	S4b	600	349						
							85 bar Max		
0125	Q	5,73	4,25						
	I	22,2	57,2						
	S2	30	3,9						
	S3	50	11,3						
	S4a	600	235						
	S4b	600	212						
							65 bar Max		
0150	Q	6,78	4,55						
	I	23,9	68,0						
	S2	30	1,9						
	S3	50	6,9						
	S4a	600	143						
	S4b	600	128						
							55 bar Max		
0200	Q								
	I								
	S2								
	S3								
	S4a								
	S4b								



advises recommande empfiehlt
SHELL TELLUS T
Lubrifiants
VISCOSITY : 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

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*:

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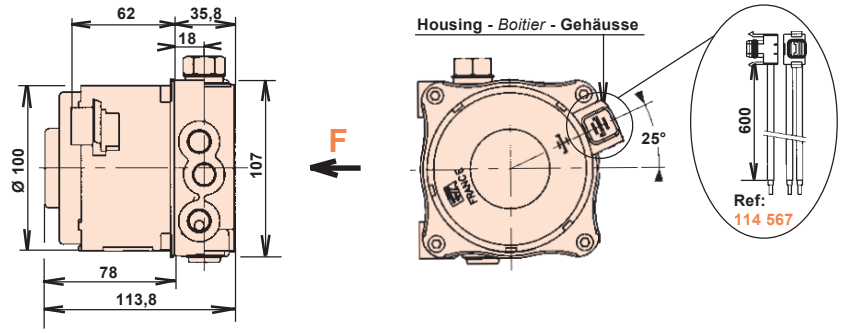
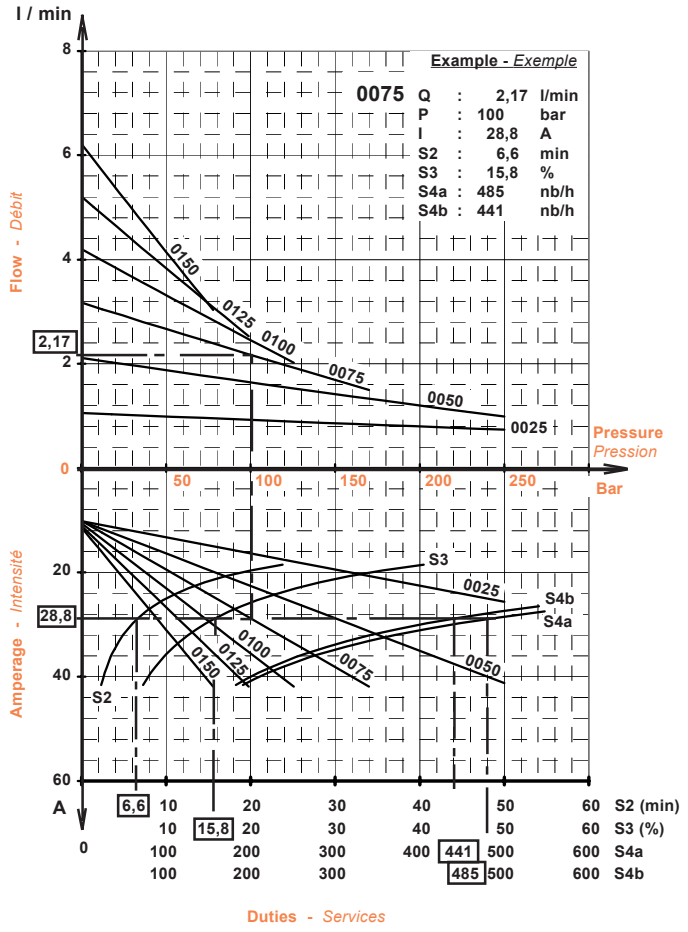
MOTOR SPECIFICATIONS - DIRECT CURRENT
SPECIFICATION MOTEUR - COURANT CONTINU



SPECIFICATIONS	
CODE *CODE*	**MF2**
VOLTAGE *TENSION*	**24VDC**
REFERENCE *REFERENCE*	114224
NOMINAL POWER *PUISSANCE NOM.*	**0,4 kW**
S3 *S3*	10%
PROTECTION *PROTECTION*	na
MASS *MASSE*	1,8 Kg

PUMPS *POMPES*		24 V PRESSURE - *PRESSION*							
		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
0025	Q	1,05	0,99	0,92	0,86	0,83	0,80	0,77	0,74
	I	10,5	13,3	16,3	19,4	21,0	22,5	24,1	25,6
	S2	30	30	30	20,6	16,5	13,5	11,1	9,3
	S3	50	50	50	36,4	30,9	26,6	23,1	20,3
	S4a	600	600	600	600	600	600	600	600
	S4b	600	600	600	600	600	600	600	586
0050	Q	2,09	1,88	1,64	1,42	1,31	1,20	1,09	0,99
	I	10,8	16,4	22,6	28,8	31,9	35,0	38,1	41,2
	S2	30	30	13,4	6,6	4,9	3,8	3,0	2,4
	S3	50	50	26,4	15,8	12,7	10,4	8,7	7,4
	S4a	600	600	600	485	374	295	238	195
	S4b	600	600	600	442	345	276	224	186
0075	Q	3,12	2,67	2,17	1,69	170 bar Max			
	I	11,1	19,5	28,8	38,2				
	S2	30	20,4	6,6	3,0				
	S3	50	36,2	15,8	8,7				
	S4a	600	600	485	237				
	S4b	600	600	441	224				
0100	Q	4,11	3,32	2,45	125 bar Max				
	I	11,9	23,1	35,6					
	S2	30	12,6	3,6					
	S3	50	25,3	10,1					
	S4a	600	600	284					
	S4b	600	600	266					
0125	Q	5,07	3,83	95 bar Max					
	I	12,7	26,7						
	S2	30	8,3						
	S3	50	18,6						
	S4a	600	590						
	S4b	600	531						
0150	Q	6,00	4,15	75 bar Max					
	I	13,4	31,0						
	S2	30	5,4						
	S3	50	13,5						
	S4a	600	402						
	S4b	600	370						
0200	Q								
	I								
	S2								
	S3								
	S4a								
	S4b								



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

Note: Specifications subject to change

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*:

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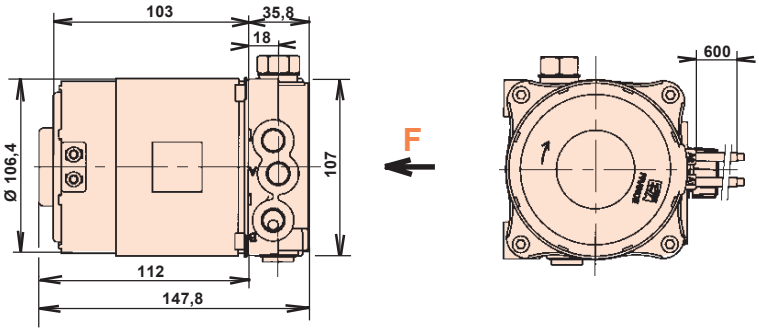
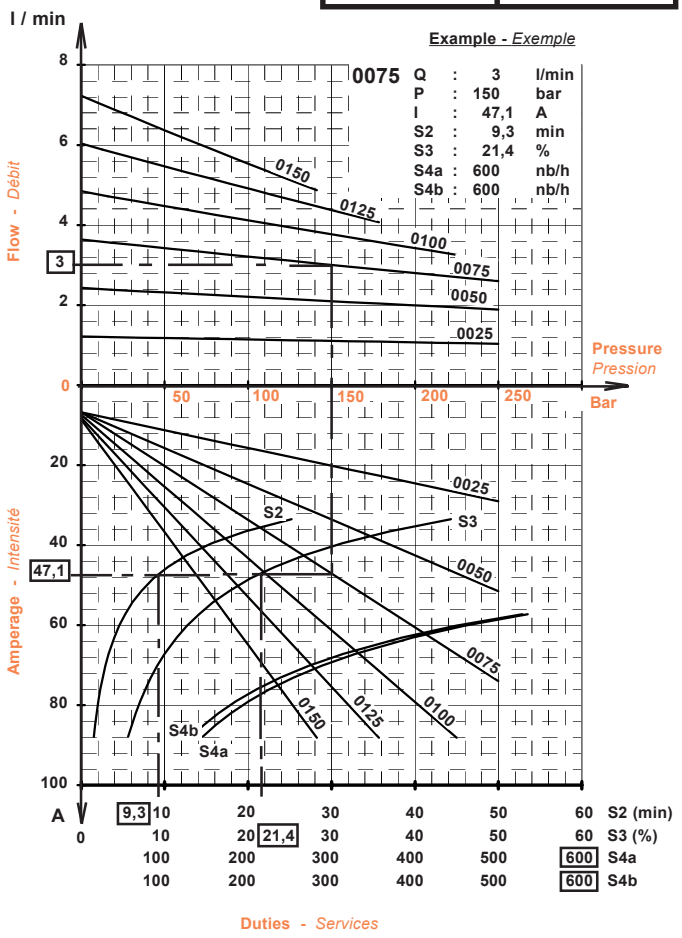
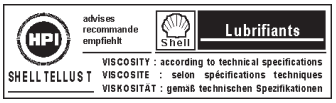
MOTOR SPECIFICATIONS - DIRECT CURRENT
SPECIFICATION MOTEUR - COURANT CONTINU



SPECIFICATIONS	
CODE *CODE*	**HF2**
VOLTAGE *TENSION*	**24VDC**
REFERENCE *REFERENCE*	114225
NOMINAL POWER *PUISSANCE NOM.*	**1 kW**
S3 *S3*	10%
PROTECTION *PROTECTION*	na
MASS *MASSE*	3,2 Kg

PUMPS *POMPES*		24 V PRESSURE - *PRESSION*							
		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
0025	Q	1,21	1,18	1,14	1,10	1,09	1,07	1,05	1,03
	I	7,3	11,3	15,7	20,2	22,4	24,6	26,8	29,0
	S2	30	30	30	30	30	30	30	30
	S3	50	50	50	50	50	50	50	50
	S4a	600	600	600	600	600	600	600	600
	S4b	600	600	600	600	600	600	600	600
0050	Q	2,41	2,31	2,20	2,10	2,04	1,99	1,94	1,89
	I	7,7	15,8	24,7	33,6	38,1	42,6	47,0	51,5
	S2	30	30	30	25,1	17,4	12,5	9,4	7,2
	S3	50	50	50	44,2	33,8	26,6	21,5	17,7
	S4a	600	600	600	600	600	600	600	600
	S4b	600	600	600	600	600	600	600	600
0075	Q	3,62	3,42	3,21	3,0	2,9	2,8	2,7	2,6
	I	8,1	20,2	33,7	47,1	53,8	60,5	67,3	74
	S2	30	30	25,0	9,3	6,3	4,5	3,3	2,5
	S3	50	50	44,1	21,4	16,1	12,5	10,0	8,1
	S4a	600	600	600	600	600	451	328	245
	S4b	600	600	600	600	600	440	313	230
0100	Q	4,80	4,47	4,12	3,77	3,59	3,42	3,25	225 bar Max
	I	9,3	25,4	43,3	61,3	70,2	79,2	88,2	
	S2	30	30	11,9	4,3	2,9	2	1,5	
	S3	50	50	25,6	12,2	9,1	7,0	5,6	
	S4a	600	600	600	435	287	200	144	
	S4b	600	600	600	424	272	184	130	
0125	Q	5,98	5,47	4,91	4,37	4,11	175 bar Max		
	I	10,4	30,6	53,0	75,4	86,6			
	S2	30	30	6,6	2,3	1,6			
	S3	50	50	16,7	7,8	5,8			
	S4a	600	600	600	232	152			
	S4b	600	600	600	216	138			
0150	Q	7,14	6,37	5,53	140 bar Max				
	I	11,4	36,8	65,0					
	S2	30	19,2	3,6					
	S3	50	36,4	10,8					
	S4a	600	600	364					
	S4b	600	600	350					
0200	Q								
	I								
	S2								
	S3								
	S4a								
	S4b								





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

Note: Specifications subject to change

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*:

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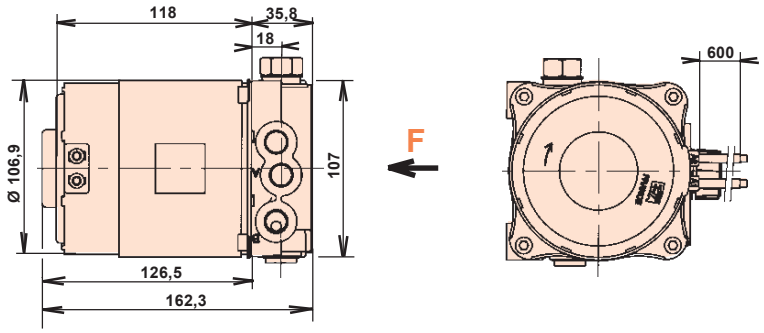
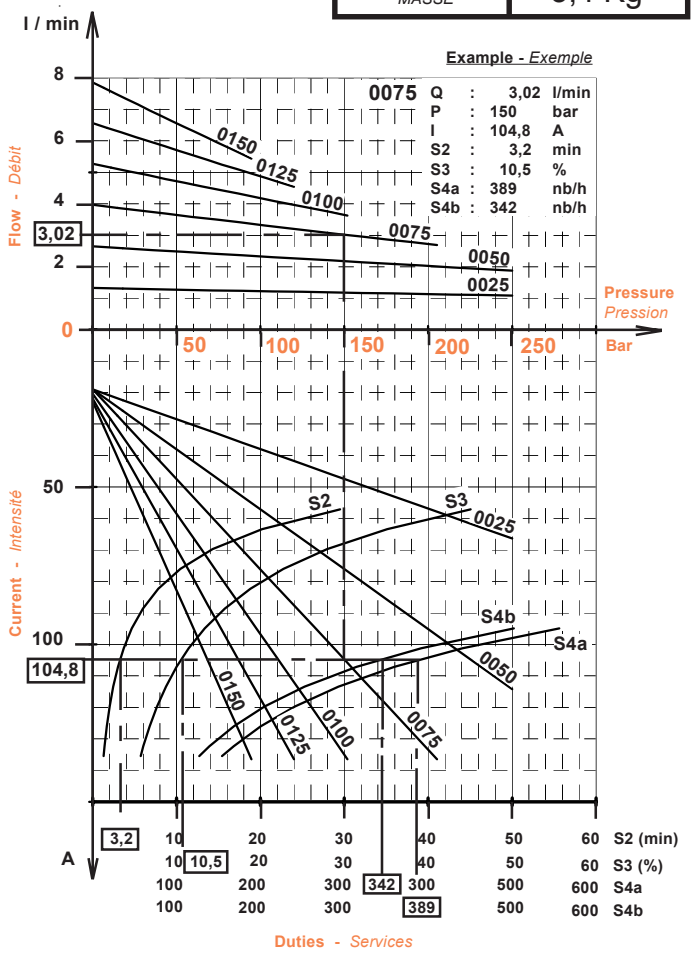
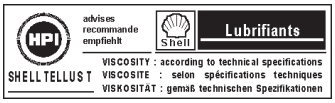
MOTOR SPECIFICATIONS - DIRECT CURRENT
SPECIFICATION MOTEUR - COURANT CONTINU



SPECIFICATIONS	
CODE *CODE*	**AF1**
VOLTAGE *TENSION*	**12VDC**
REFERENCE *REFERENCE*	114226
NOMINAL POWER *PUISSANCE NOM.*	**0,9 kW**
S3 *S3*	10%
PROTECTION *PROTECTION*	na
MASS *MASSE*	3,4 Kg

PUMPS *POMPES*		VOLTAGE - *TENSION* 12 V							
		PRESSURE - *PRESSION*							
		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
0025	Q	1,32	1,27	1,22	1,18	1,15	1,13	1,11	1,08
	I	20,0	28,5	37,9	47,4	52,1	56,9	61,6	66,3
	S2	30	30	30	30	30	29,9	22,4	17,1
	S3	50	50	50	50	50	45,5	37,6	31,5
	S4a	600	600	600	600	600	600	600	600
	S4b	600	600	600	600	600	600	600	600
	PC								
0050	Q	2,63	2,48	2,33	2,17	2,10	2,02	1,95	1.88
	I	20,9	38,0	57,1	76,1	85,6	95,2	104,7	114,2
	S2	30	30	29,5	10,4	6,8	4,6	3,3	2,4
	S3	50	50	45,1	22,6	17,1	13,3	10,6	8,6
	S4a	600	600	600	600	600	551	390	285
	S4b	600	600	600	600	600	497	344	245
	PC								
0075	Q	3,93	3,64	3,33	3,02	2,87	2,72	205 bar Max	
	I	21,8	47,6	76,2	104,8	119,1	133,5		
	S2	30	30	10,3	3,2	2,0	1,3		
	S3	50	50	22,6	10,5	7,7	5,9		
	S4a	600	600	600	389	245	163		
	S4b	600	600	600	342	209	135		
	PC								
0100	Q	5,21	4,72	4,18	3,65	150 bar Max			
	I	24,2	58,6	96,8	135				
	S2	30	26,9	4,3	1,3				
	S3	50	42,4	12,7	5,7				
	S4a	600	600	518	156				
	S4b	600	600	465	129				
	PC								
0125	Q	6,48	5,70	4,87	120 bar Max				
	I	26,7	69,6	117,4					
	S2	30	14,3	2,2					
	S3	50	28	8,0					
	S4a	600	600	600					
	S4b	600	600	600					
	PC								
0150	Q	7,72	6,56	95 bar Max					
	I	28,9	82,9						
	S2	30	7,6						
	S3	50	18,5						
	S4a	600	600						
	S4b	600	600						
	PC								
0200	Q								
	I								
	S2								
	S3								
	S4a								
	S4b								
	PC								





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

Note: Specifications subject to change

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

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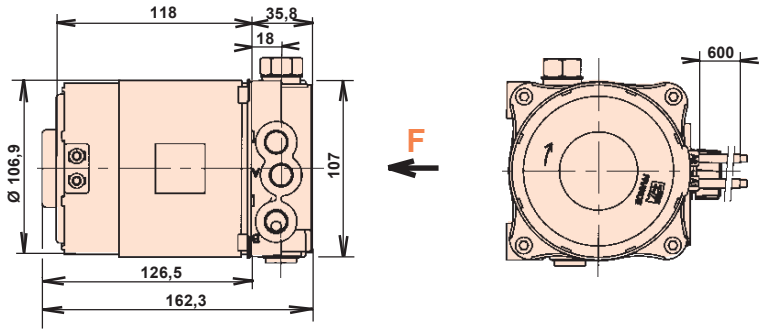
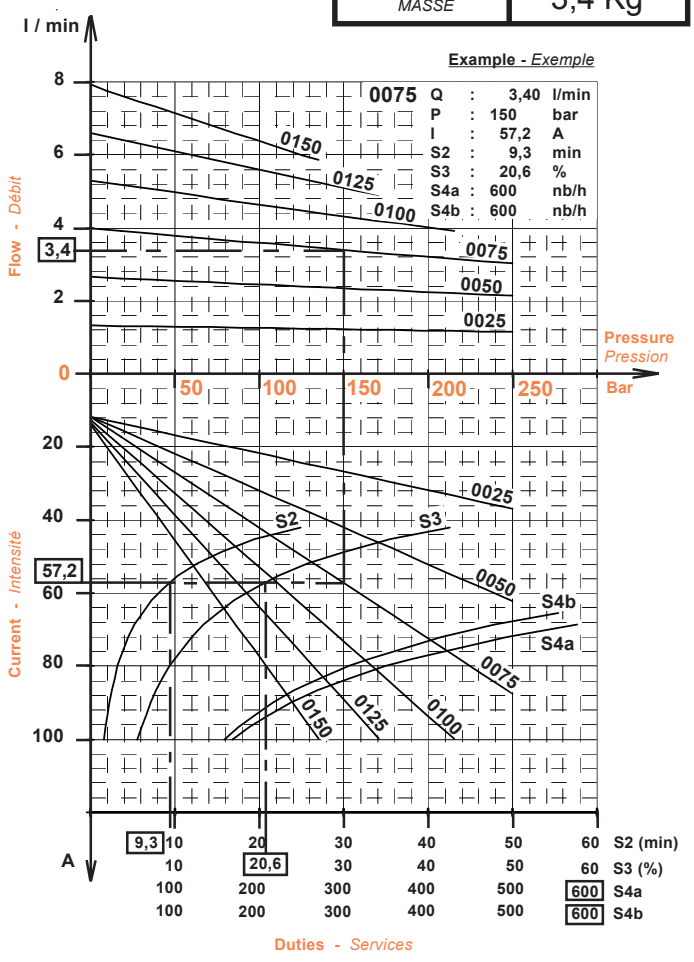
MOTOR SPECIFICATIONS - DIRECT CURRENT
SPECIFICATION MOTEUR - COURANT CONTINU



SPECIFICATIONS	
CODE *CODE*	**AF2**
VOLTAGE *TENSION*	**24VDC**
REFERENCE *REFERENCE*	114227
NOMINAL POWER *PUISSANCE NOM.*	**1,2 kW**
S3 *S3*	10%
PROTECTION *PROTECTION*	na
MASS *MASSE*	3,4 Kg

PUMPS *POMPES*		VOLTAGE - *TENSION* 24 V / PRESSURE - *PRESSION*							
		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
0025	Q	1,32	1,29	1,25	1,22	1,20	1,19	1,17	1,15
	I	12,2	16,7	21,7	26,8	29,3	31,8	34,3	36,8
	S2	30	30	30	30	30	30	30	30
	S3	50	50	50	50	50	50	50	50
	S4a	600	600	600	600	600	600	600	600
	S4b	600	600	600	600	600	600	600	600
	PC	35	35	35	35	35	35	35	35
0050	Q	2,64	2,55	2,44	2,34	2,29	2,24	2,19	2,14
	I	12,7	21,8	31,9	42	47	52,1	57,2	62,2
	S2	30	30	30	24,7	17,3	12,5	9,3	7,1
	S3	50	50	50	42,4	32,5	25,6	20,6	16,9
	S4a	600	600	600	600	600	600	600	595
	S4b	600	600	600	600	600	600	600	553
	PC	35	35	35	27	19	13	10	7
0075	Q	3,96	3,78	3,59	3,40	3,30	3,21	3,12	3,02
	I	13,2	26,8	42,0	57,2	64,8	72,4	80	87,6
	S2	30	30	24,7	9,3	6,3	4,4	3,2	2,4
	S3	50	50	42,3	20,6	15,4	11,9	9,4	7,6
	S4a	600	600	600	600	600	485	350	260
	S4b	600	600	600	600	567	410	306	234
	PC	35	35	27	10	7	5	3	2
0100	Q	5,26	4,97	4,64	4,32	4,16	4,01	215 bar Max	
	I	14,4	32,7	53,0	73,2	83,4	93,5		
	S2	30	30	11,9	4,3	2,8	2,0		
	S3	50	50	24,6	11,5	8,5	6,5		
	S4a	600	600	600	467	305	210		
	S4b	600	600	600	396	271	193		
	PC	35	35	13	4	3	2		
0125	Q	6,56	6,09	5,59	5,09	170 bar Max			
	I	15,8	38,6	63,9	89,2				
	S2	30	30	6,6	2,3				
	S3	50	50	15,9	7,3				
	S4a	600	600	600	245				
	S4b	600	600	600	222				
	PC	35	35	7	2				
0150	Q	7,84	7,13	6,37	135 bar Max				
	I	16,9	45,6	77,4					
	S2	30	19,1	3,6					
	S3	50	35	10,1					
	S4a	600	600	389					
	S4b	600	600	337					
	PC	35	21	4					
0200	Q								
	I								
	S2								
	S3								
	S4a								
	S4b								
	PC								



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

Note: Specifications subject to change

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*:

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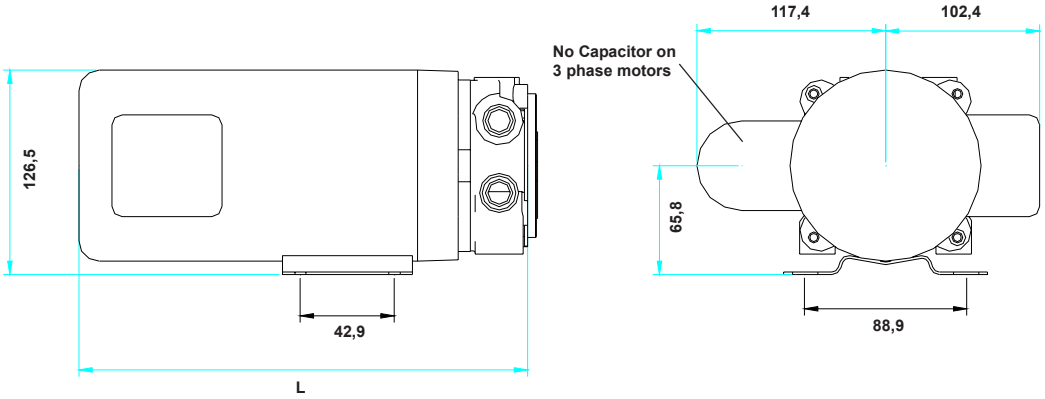
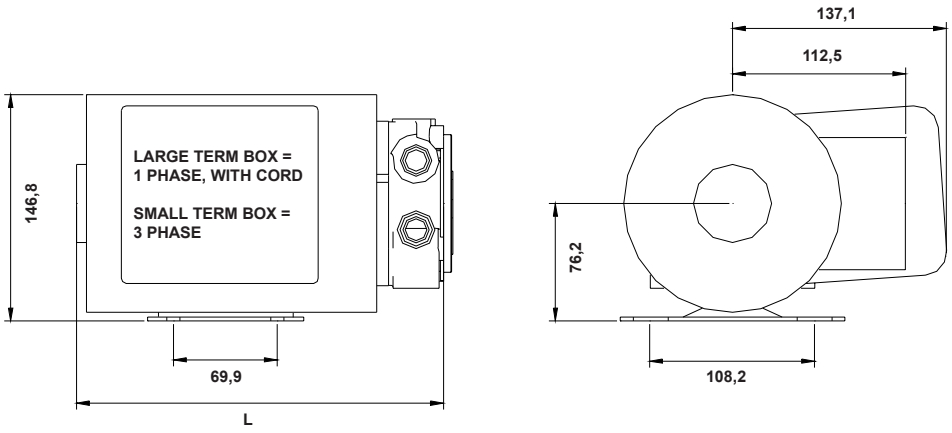
MOTOR SPECIFICATIONS - AC CURRENT
SPECIFICATION MOTEUR - COURANT AC



MODEL	Capacity cm³/rev	P3 Bar	Nominal Flow 1725 RPM L /min	Nominal Flow 3450 RPM L /min
MODELE	*Capacité cm³/t*	*P3 Bar*	Debit Nominale 1725 t/min l /min	Debit Nominale 3450 t/min l /min
025	0,25	280	NA	0,74
050	0,50	280	NA	1,67
075	0,75	250	NA	2,54
100	1,00	250	NA	3,38
125	1,25	200	NA	4,23
150	1,50	150	NA	5,07
200	2,00	125		6,73

Note! Flow ratings are calculated at the maximum continuous pressure and corresponding volumetric efficiency at the specified RPM.

MOTOR *MOTEUR*	1.0 HP 42C FRAME SPECIFICATIONS - *SPECIFICATION*				
VOLTAGE	RPM *t/min*	L	Amps *Intensite*	Weight *Masse*	Reference *Reference*
115/230V 1 phase	3450	277,0	14.4/7.2	12,7	33E548W248
208-230/460V 3 phase	3450	226,2	5.0/2.5	11,0	33E531-1195
575V 3 phase	3450	226,2	2.0	11,0	33E531-1149



MODEL	Capacity cm³/rev	P3 Bar	Nominal Flow 1725 RPM L /min	Nominal Flow 3450 RPM L /min
MODELE	*Capacité cm³/t*	*P3 Bar*	Debit Nominale 1725 t/min l /min	Debit Nominale 3450 t/min l /min
025	0,25	280	NA	0,74
050	0,50	280	NA	1,67
075	0,75	250	NA	2,54
100	1,00	250	NA	3,38
125	1,25	200	NA	4,23
150	1,50	150	NA	5,07
200	2,00	125		6,73

Note! Flow ratings are calculated at the maximum continuous pressure and corresponding volumetric efficiency at the specified RPM.

MOTOR *MOTEUR*	1.0 HP 48C FRAME SPECIFICATIONS - *SPECIFICATION*				
VOLTAGE	RPM *t/min*	L	Amps *Intensite*	Weight *Masse*	Reference *Reference*
115V 1 phase	3450	255,1	10.1	9,5	17E596W931
208/230V 1phase	3450	255,1	4.8/4.9	9,5	17E596X021
208-230/460V 3 phase	3450	213,2	5.2/5.6	8,2	17E674W940
575V 3 phase	3450	213,2	2.1	8,2	17E674W941G1

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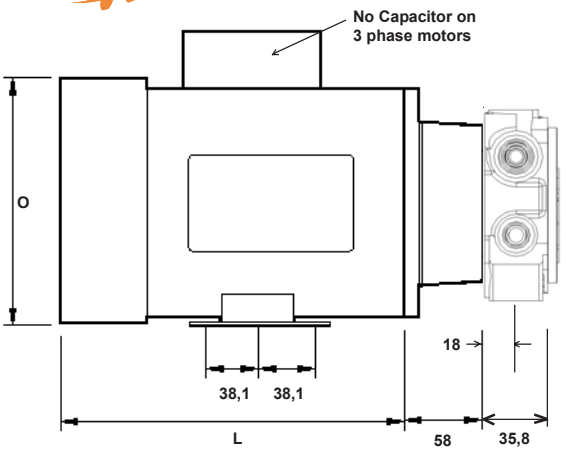
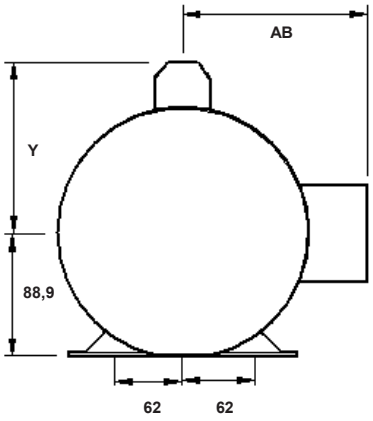
MOTOR SPECIFICATIONS - AC CURRENT
SPECIFICATION MOTEUR - COURANT AC





MODEL / *MODELE*	Capacity cm³/rev / *Capacité cm³/t*	P3 Bar / *P3 Bar*	Nominal Flow 1725 RPM L /min / Debit Nominale 1725 t/min l /min	Nominal Flow 3450 RPM L /min / 3450 t/min l /min
025	0,25	280	0,32	0,74
050	0,50	280	0,79	1,67
075	0,75	250	1,22	2,54
100	1,00	250	1,66	3,38
125	1,25	200	2,07	4,23
150	1,50	150	2,48	5,07
200	2,00	125	3,40	6,73

Note! Flow ratings are calculated at the maximum continuous pressure and corresponding volumetric efficiency at the specified RPM.

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

MOTOR *MOTEUR*		230 / 460V, THREE PHASE SPECIFICATIONS - *SPECIFICATION*						
HP	RPM *t/min*	L	O	Y	AB	Amps *Intensite*	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	187	0	142	1,6	10,5	D392
1.00	1725	235	183	0	135	1,9	11,4	110035CL
	3450	223	183	0	133	1,6	10,9	110181 [1]
1.50	1725	248	180	0	135	2,5	13,6	110444C/L
	3450	248	180	0	133	2,1	13,2	110917 [1]
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

MOTOR *MOTEUR*		575V, THREE PHASE SPECIFICATIONS - *SPECIFICATION*						
HP	RPM *t/min*	L	O	Y	AB	Amps *Intensite*	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 [1]
	3450	223	180	0	136	1,3	10,9	114468 [1]
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

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)
2. Dual rated 50/60hz (3000/3600 RPM) (1500/1800 RPM)
3. Intermittent Duty
4. Junction box in motor end housing
5. Modified to 56C face
6. Manual thermal protection
7. Red industrial motor
8. 230V only

Common Calculations and Conversion Factors

Pump Flow Output

$$LPM = \frac{cm^3/rev \times RPM \times Eff(v)}{1000}$$

$$GPM = \frac{cm^3/rev \times RPM \times Eff(v)}{3785}$$

HP Required for continuous duty.

$$HP = \frac{LPM \times Bar}{402}$$

$$HP = \frac{GPM \times PSI}{1542}$$

Note! efficiency is already taken into account in above formulas.

Common Conversion Factors

GPM = LPM / 3.785
psi = Bar x 14.5
lbs = Kg x 2.2
$In^3 = cm^3 / 16.39$
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.

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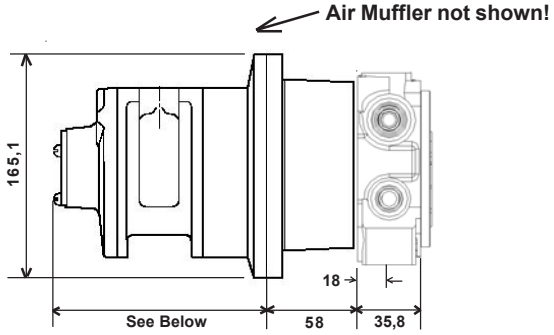
MOTOR SPECIFICATIONS - AIR MOTORS
SPECIFICATION MOTEUR - AIR MOTEUR

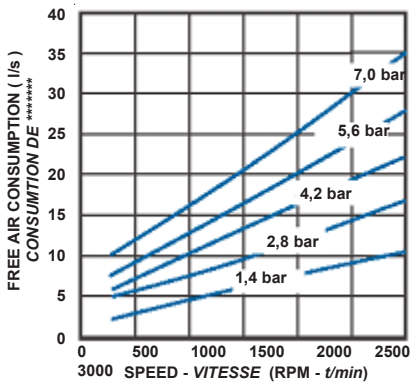
MODEL	Capacity cm³/rev	P3 Bar	Nominal Flow 2500 RPM L /min	Nominal Flow 3000 RPM L /min
MODELE	*Capacité cm³/t*	*P3 Bar*	Debit Nominale 2500 t/min l /min	Debit Nominale 3000 t/min l /min
025	0,25	280	0,46	0,65
050	0,50	280	1,15	1,46
075	0,75	250	1,76	2,21
100	1,00	250	2,40	2,94
125	1,25	200	3,00	3,68
150	1,50	150	3,60	4,41
200	2,00	125	4,93	5,85

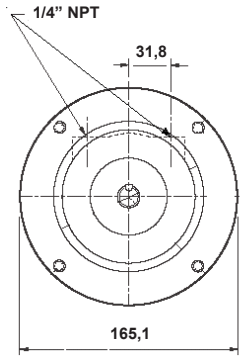
Note! Flow ratings are calculated at the maximum continuous pressure and corresponding volumetric efficiency at the specified RPM.

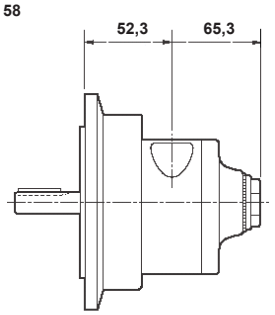


SPECIFICATIONS

REFERENCE *REFERENCE*	4AM-NRV-50C -4VANE 4AM-NRV-70C -8VANE
MAXIMUM HP *PUISSANCE MAXI*	1.7 HP
MAX SPEED *VITESSE MAXI*	3000 RPM
MAX PRESSURE *PRESSION MAXI*	6.9 BAR
FRAME SIZE *TAILLE*	56C
MASS *MASSE*	5,4 Kg

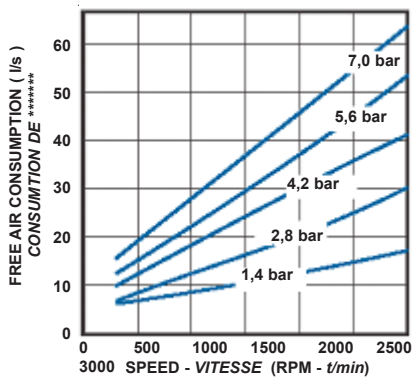


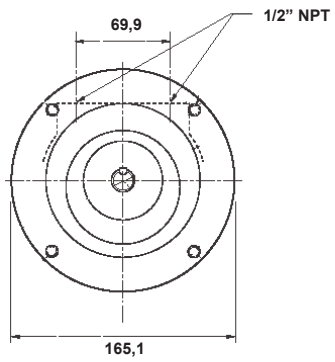


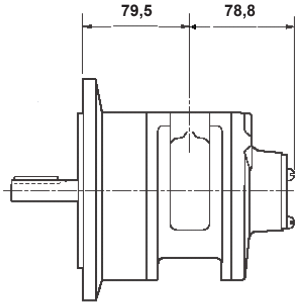


SPECIFICATIONS

REFERENCE *REFERENCE*	6AM-NRV-11A -4 VANE 6AM-NRV-22A -8 VANE
MAXIMUM HP *PUISSANCE MAXI*	4.0 HP
MAX SPEED *VITESSE MAXI*	3000 RPM
MAX PRESSURE *PRESSION MAXI*	6.9 BAR
FRAME SIZE *TAILLE*	56C
MASS *MASSE*	10,8 Kg

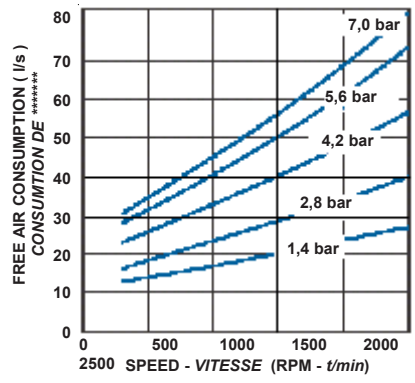


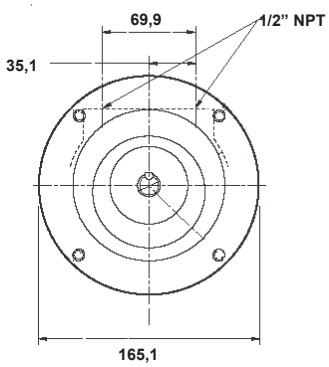


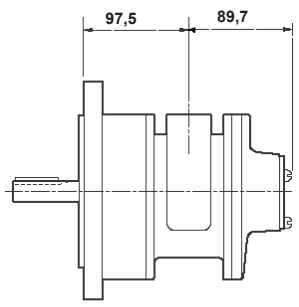


SPECIFICATIONS

REFERENCE *REFERENCE*	8AM-NRV-28A -4 VANE 8AM-NRV-32A -8 VANE
MAXIMUM HP *PUISSANCE MAXI*	5.0 HP
MAX SPEED *VITESSE MAXI*	2500 RPM
MAX PRESSURE *PRESSION MAXI*	6.9 BAR
FRAME SIZE *TAILLE*	145C
MASS *MASSE*	12,6 Kg







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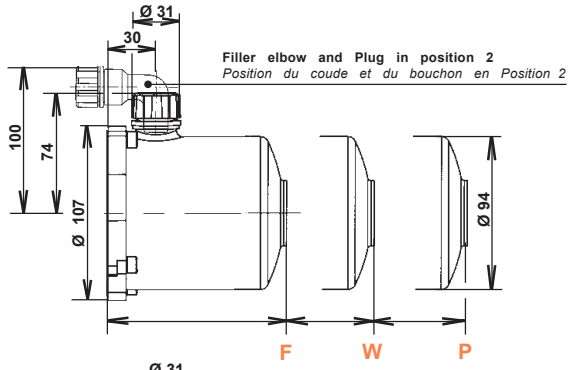
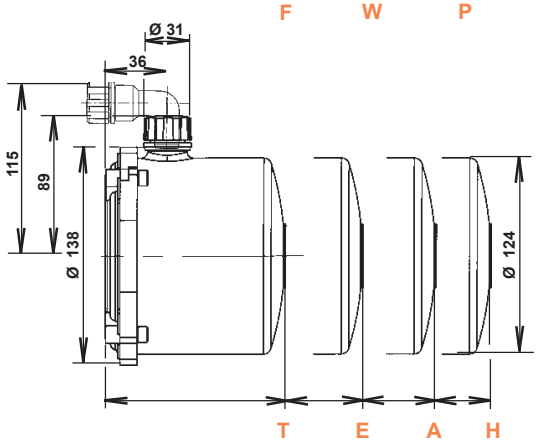
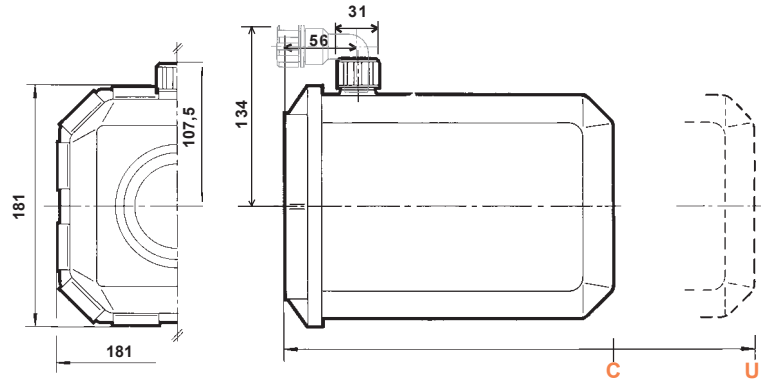
The information contained on this page is specific to hydraulic units assembled in North America. Volumes may differ for units assembled in France.



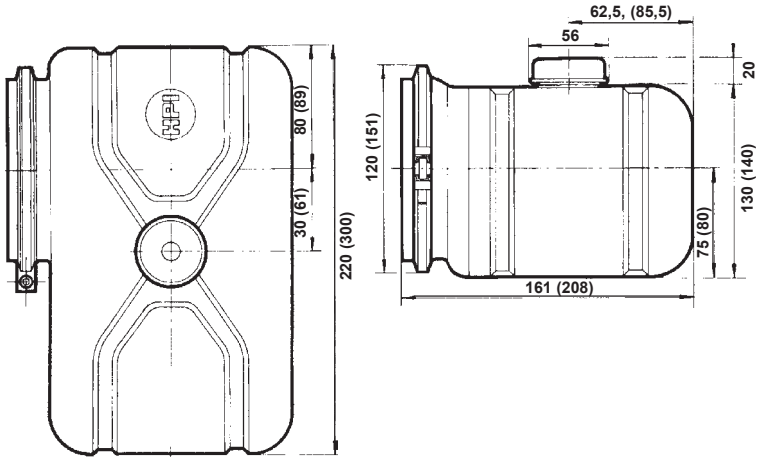
RESERVOIRS *RÉSERVOIRS*		USEABLE CAPACITY *CAPACITÉS UTILES*		
CODE *CODE*	TYPE *TYPE*	HORIZONTAL Horis	VERTICAL Veric	Lenght
F	0,5 L	0,45 L		110
W	0,75 L	0,59 L	0,38 L	150
P	1,0 L	0,79 L	0,57 L	190



RESERVOIRS *RÉSERVOIRS*		USEABLE CAPACITY *CAPACITÉS UTILES*		
CODE *CODE*	TYPE *TYPE*	HORIZONTAL Horis	VERTICAL Veric	Lenght
T	1,1 L			112
E	1,5 L	1,24 L	0,71 L	148
A	2,0 L	1,40 L	1,10 L	194
H	2,5 L	1,78 L	1,69 L	244
B	3,0 L	2,07 L	2,18 L	285
S	4,0 L		3,36 L	390
Z	6,0 L		5,22 L	606



RESERVOIRS *RÉSERVOIRS*		USEABLE CAPACITY *CAPACITÉS UTILES*		
CODE *CODE*	TYPE *TYPE*	HORIZONTAL Horis	VERTICAL Veric	Lenght
C	5,0 L	3,68 L	3,27 L	226
U	6,0 L	4,57 L	4,66 L	281



RESERVOIRS *RÉSERVOIRS*		USEABLE CAPACITY *CAPACITÉS UTILES*		
CODE *CODE*	TYPE *TYPE*	HORIZONTAL Horis	VERTICAL Veric	Lenght
M	3,3 L	2,54		na
G	6,4 L	5,4 L		na

Note! G dimensions shown in brackets

Useable Reservoir Capacity is the amount of oil that can be withdrawn from the tank using the standard suction strainer setup.

In vertical applications, the fill line is to the bottom of the filler elbow. Vertical capacity may be increased by sealing the filler elbow threads and repositioning the intake strainer.

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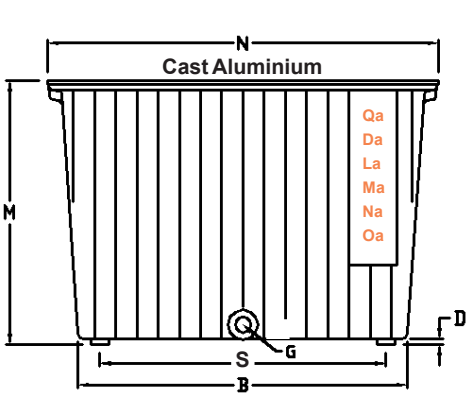
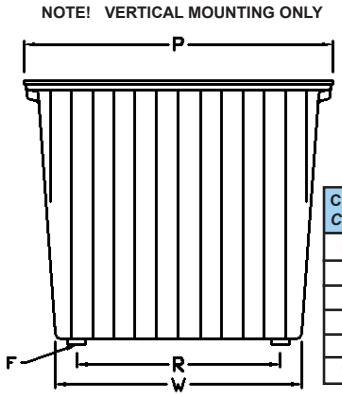


NOTE! VERTICAL MOUNTING ONLY

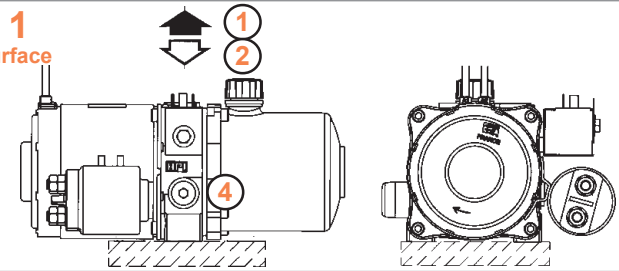


RESERVOIRS *RÉSERVOIRS*		USEABLE CAPACITY *CAPACITÉS UTILES*		
CODE *CODE*	TYPE *TYPE*	HORIZONTAL Horis	VERTICAL Veric	Weight *Masse*
Qa	6,5 L		6,0 L	3 Kg
Da	12,0 L		10,0 L	4 Kg
La	18,0 L		15,0 L	6 Kg
Ma	30,0 L		27,0 L	8 Kg
Na	44,0 L		40,0 L	13 Kg
Oa	70,0 L		63,0 L	17 Kg

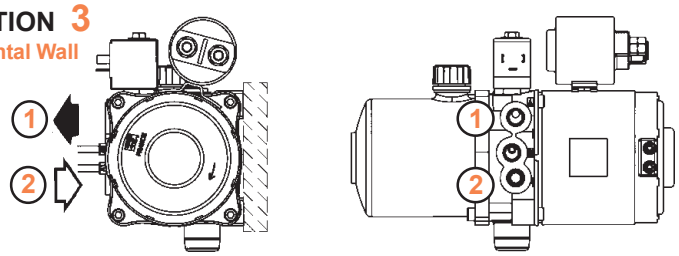
CODE *CODE*	DIMENSIONS									
	B	D	F	G	N	M	P	R	S	W
Qa	225	10	M6	3/8	260	187	220	160	200	185
Da	270	5	M8	3/8	310	227	240	155	225	200
La	315	5	M8	1/2	366	257	288	192	270	235
Ma	410	10	M10	1/2	490	292	340	176	326	260
Na	425	10	M10	1/2	515	323	415	241	341	325
Oa	510	10	M10	1/2	605	373	465	282,5	422,5	370

MOUNTING POSITIONS

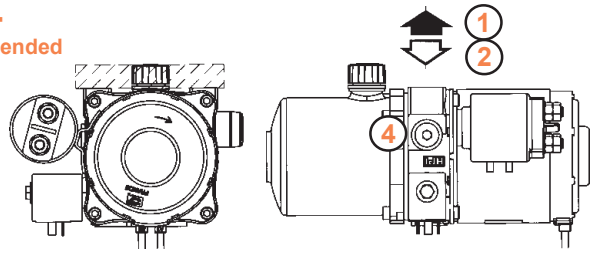
POSITION 1
Horizontal Surface Mount



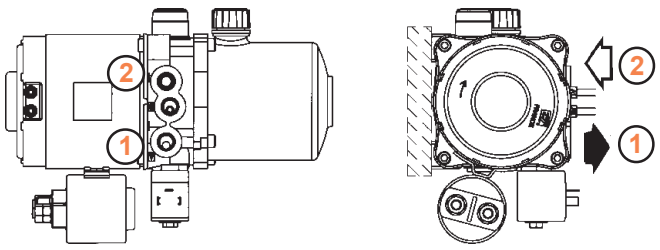
POSITION 3
Horizontal Wall Mount



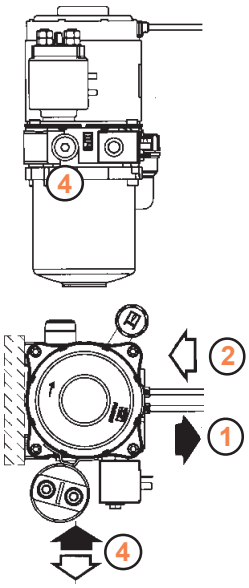
POSITION 4
Horizontal Suspended Mount



POSITION 5
Horizontal Wall Mount



POSITION 2
Vertical Wall Mount



LEGEND

1. Pressure Port / *Orifice Pression*
2. Return Port / *Orifice Retour*
3. Cartridge Cavity
4. Auxillary Pressure Port

Relief Valve / *Limiteur de Pression*

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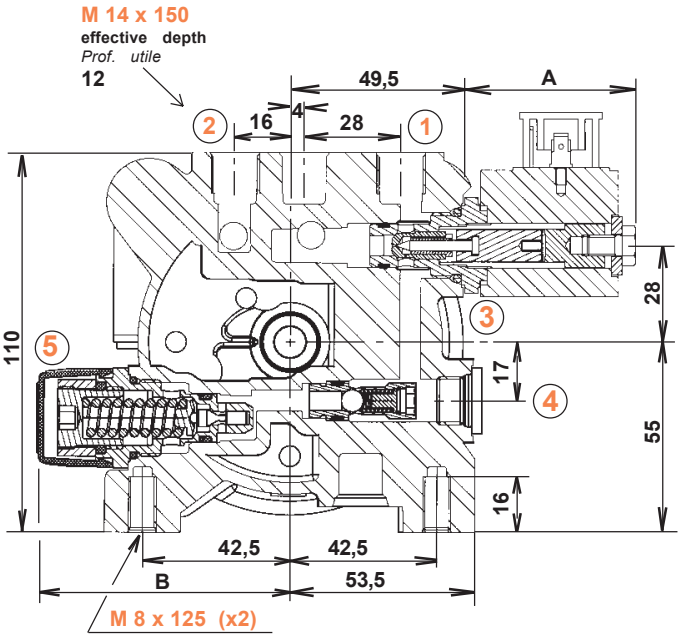
VALVE MOUNTING SPECIFICATIONS
SPECIFICATION POUR MONTAGE

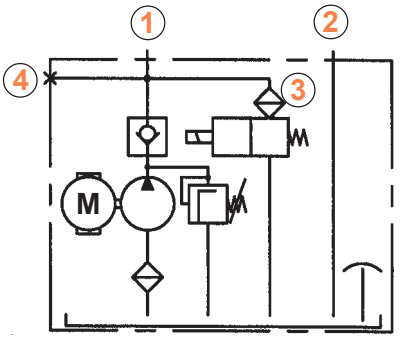
STANDARD MOUNTING

MONTAGE STANDARD

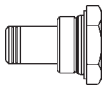


A		B	
VNF 1G:	63	Sealed (with cap)	
VNF 2G:	50,5	*Plombé*	78
VNO :	88,6	Not sealed	
VLB :	88,6	*Non plombé*	67,5

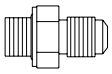
TYPICAL HYDRAULIC SCHEMATIC



OPTIONAL ACCESSORIES



Port 3 Plug



Port 1 & 2 Adaptors
#6 JIC Male **(Included as Standard)**
1/4" NPT Female
#6 SAE Female

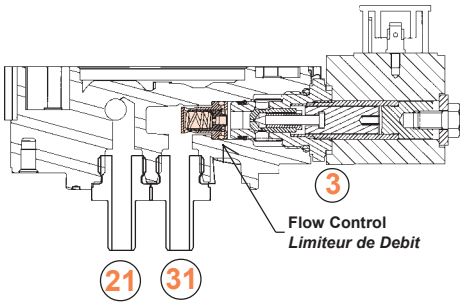
Port 4 Pressure Adaptor
1/4" NPT Female#
6 JIC Male

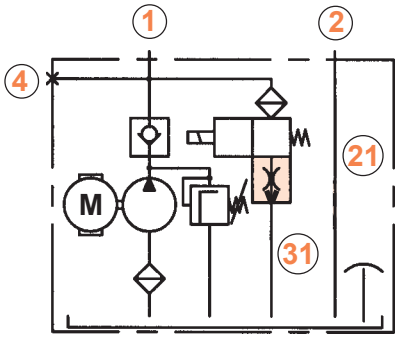
Pressure Compensated Flow Control on port 3

Ranges:
1,2 to 6,6 l/m standard

Limiteur de Débit Compensé sur Orifice 3

1,2 a 6,6 l/m Maxi

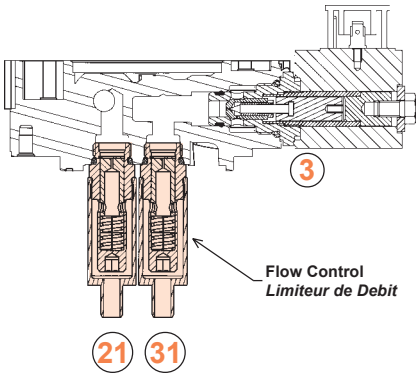


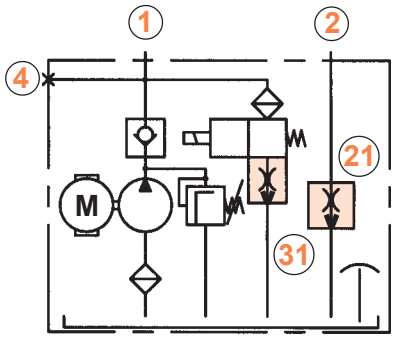


Pressure Compensated flow control on port 31 and 21

Ranges:
7,7 to 18,3 l/m standard
0,9 to 6,1 l/m optional

Limiteur de Débit Compensé sur Orifice 31 plus 21





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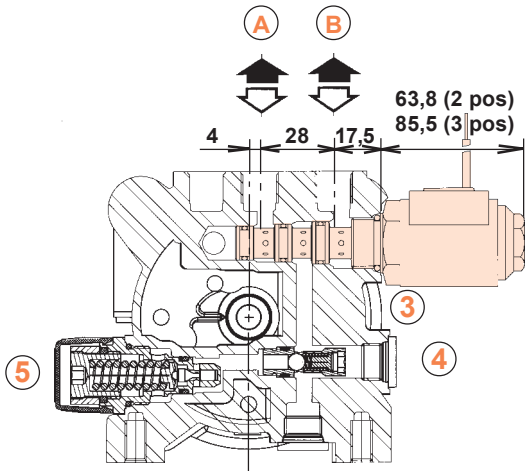
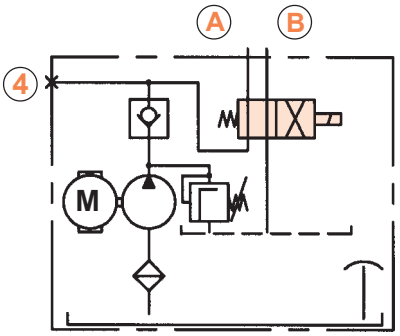
VALVE MOUNTING SPECIFICATIONS
SPECIFICATION POUR MONTAGE

Mounting with 4way / 2pos Valve. and 4 way / 3pos Valve.

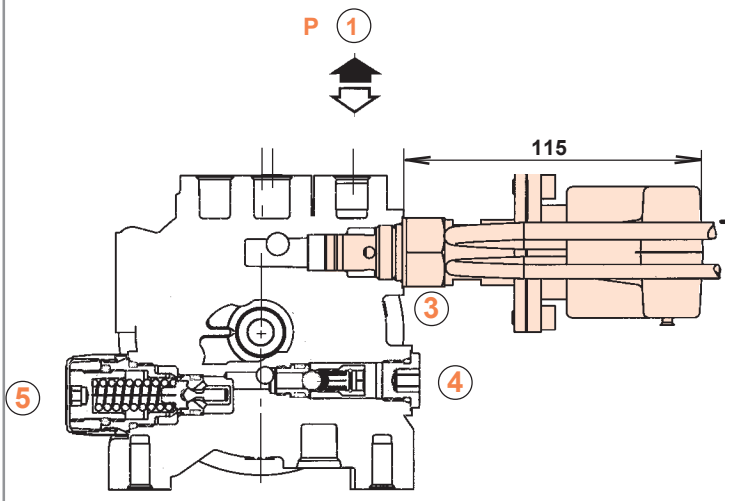
Montage avec Valve 4 Voies/ 2 Positions a 4 Voies / 3 Positions

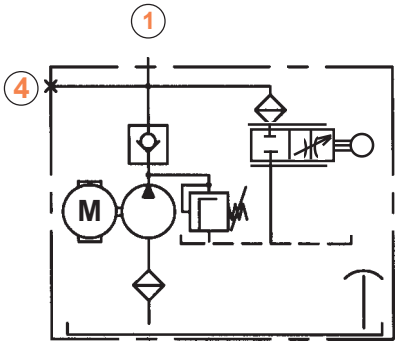




Mounting with Proportional valve (10 or 27 rev / min)

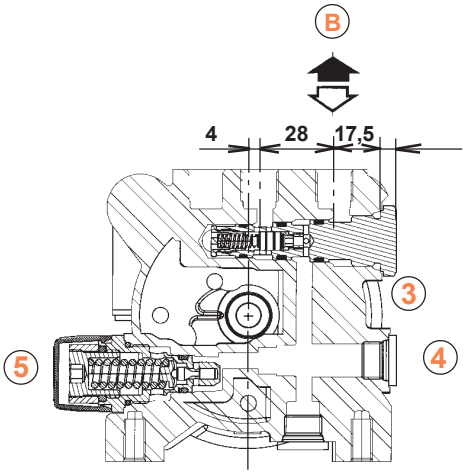
Montage avec Valve Proportionnelle (10 ou 27 l / min)

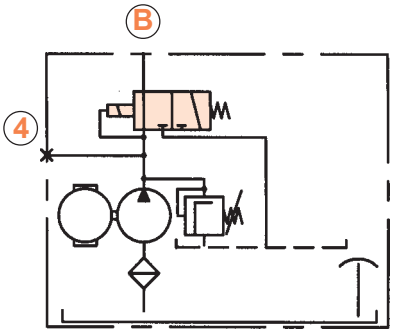




Mounting with 3 way valve with free flow. (Dockleveler)

Montage avec Clapet 3 voies à passage libre (free - flow)





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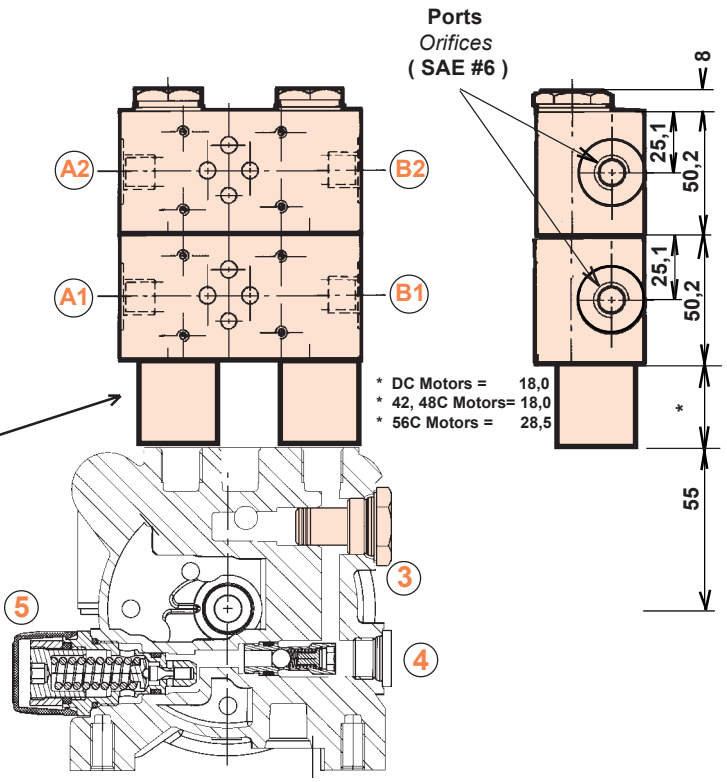
VALVE MOUNTING SPECIFICATIONS
SPECIFICATION POUR MONTAGE

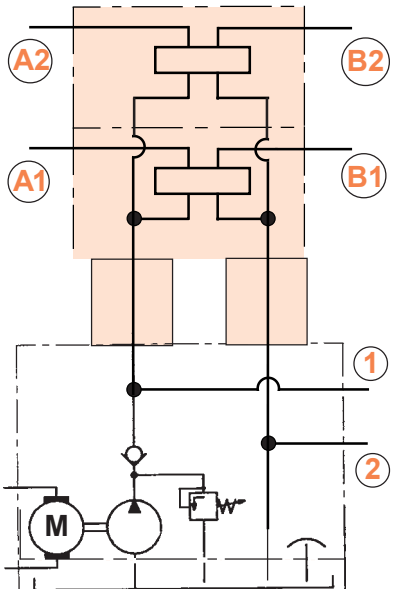
Mounting block for CETOP 3 valves (1 or more Stations)

Montage avec bloc CETOP 3 (1 a plus fonctions)



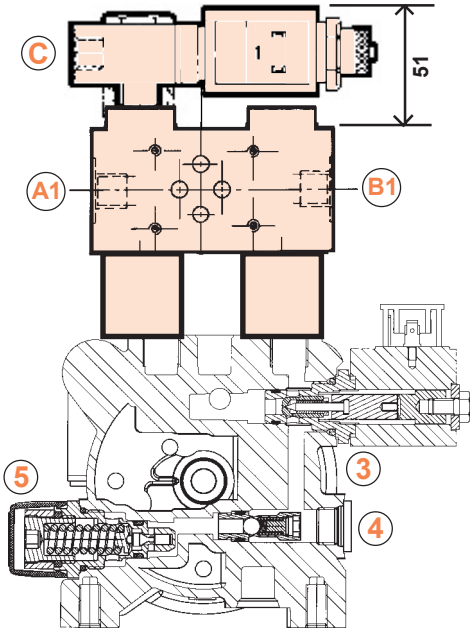
Note! This spacer is not used with Direct Current Motors.

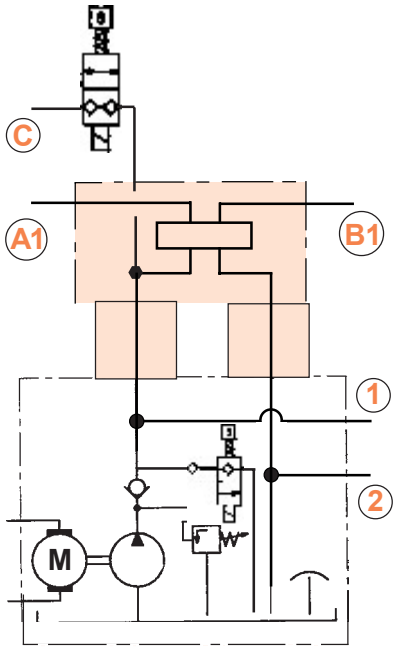
1 to 6 Stations are available. Please add base dimension of 50,2 mm for each station.



Mounting with CETOP 3 block and single acting function.

Montage avec bloc CETOP 3 1 fonctions





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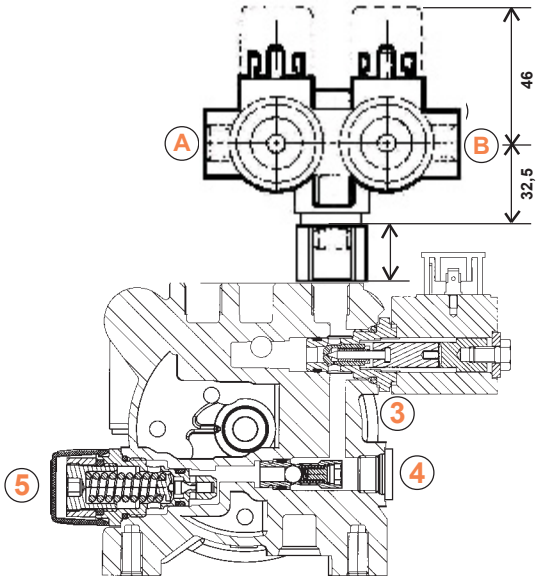
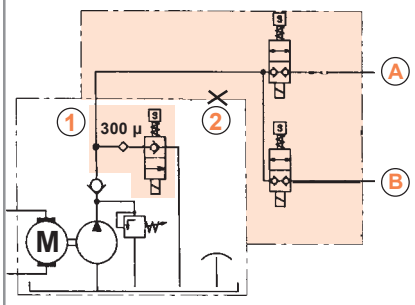
Mounting Block for
2 X single acting setup.





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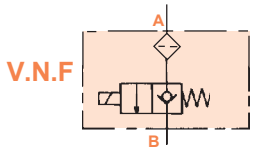
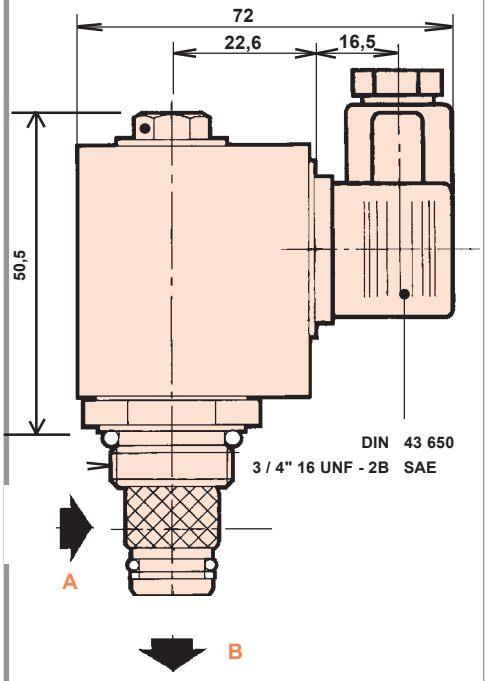
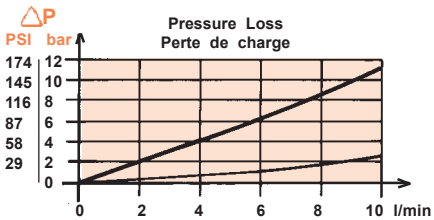
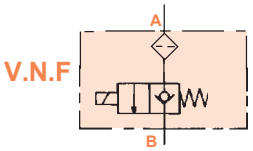


Normally Closed Valve
Valve Normalement Fermée
2G - 10L/MIN

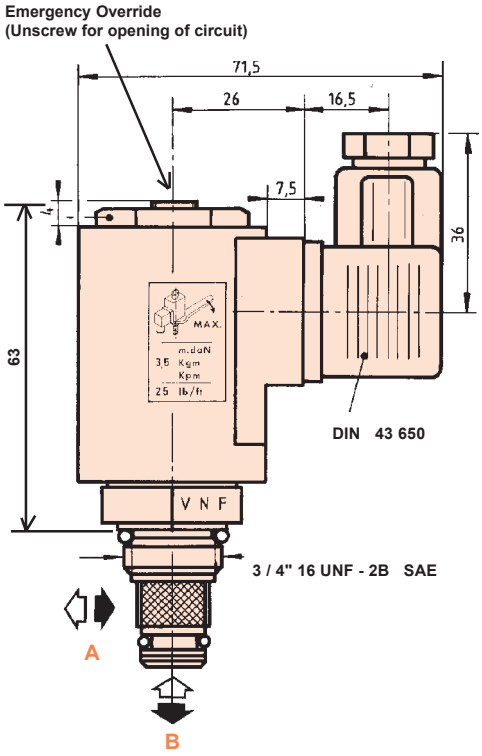


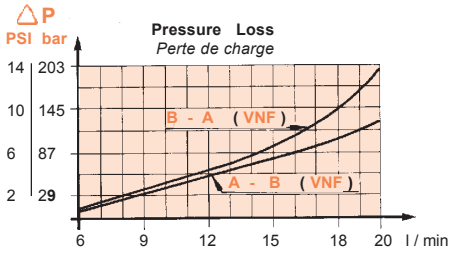


Specifications / *Specifications*		
Voltage *Tension*	**Power**	**P3 (Bar)** *P3 (Bar)*
12 VDC	1,5 A	300
24 VDC	0,7 A	300
24 VRAC	0,7 A	300
110 VRAC	0,2 A	300
220 VRAC	0,1 A	300

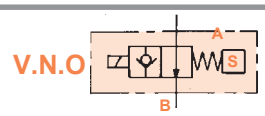


Normally Closed Valve
Valve Normalement Fermée
1G - 20L/MIN

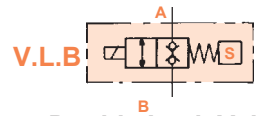




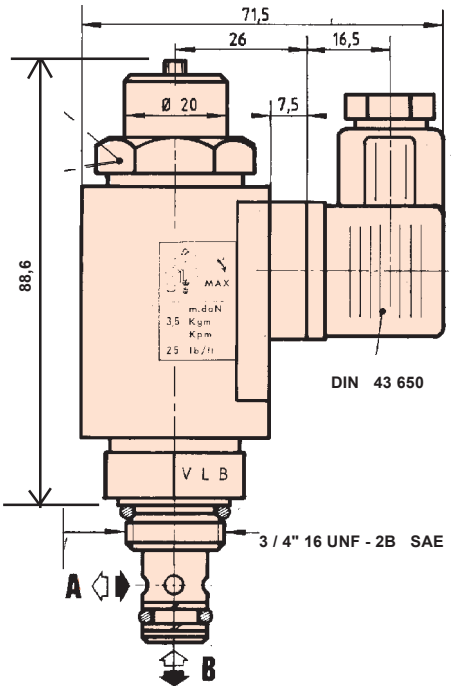
Specifications / *Specifications*		
Voltage *Tension*	**Power**	**P3 (Bar)** *P3 (Bar)*
12 VDC	1,3 A	300
24 VDC	0,7 A	300
24 VRAC	1,0 A	300
110 VRAC	0,2 A	300
220 VRAC	0,1 A	300

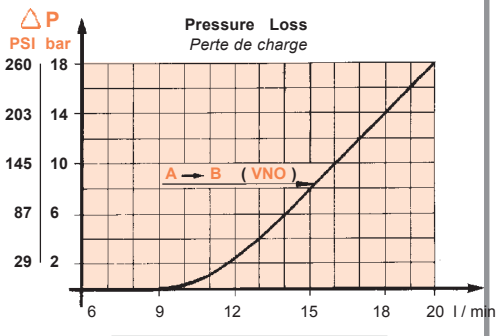


Normally open valve
Valve Normalement Ouverte
1G - 20L/MIN



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





Specifications / *Specifications*		
Voltage *Tension*	**Power**	**P3 (Bar)** *P3 (Bar)*
12 VDC	1,3 A	300
24 VDC	0,7 A	300
24 VRAC	1,0 A	300
110 VRAC	0,2 A	300
220 VRAC	0,1 A	300

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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**
Repeatibility :	**50 to100 % 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 accoprding to DIN 40050**
Emergency control :	**Closed position in case of power cut off**
Control voltage :	**0,7 V to 10 V**

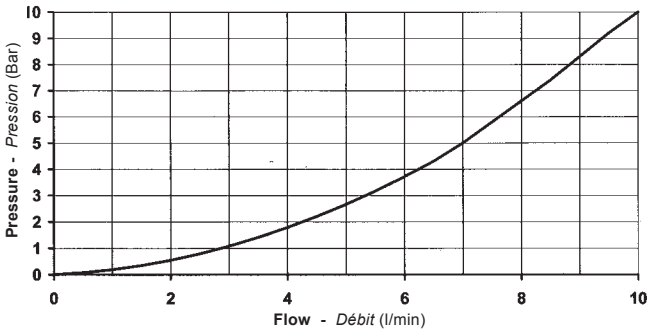
CARACTERISTIQUES HYDRAULIQUES
(Huile SHELL Tellus T46 à 40°C - 46 Cst)

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**

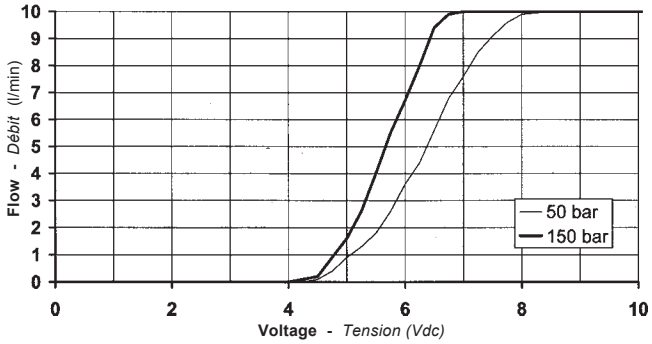
Reference: C5089984
10 l / min

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

Pressure Loss
Perte de charge



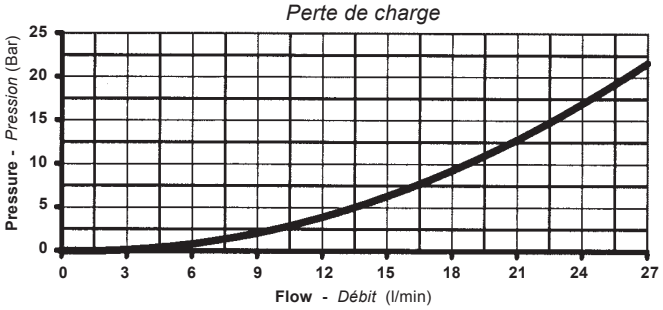
Progressivity according to Voltage
Progressivité en fonction de la Tension



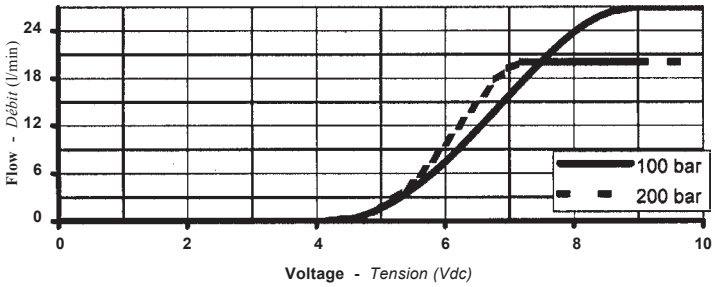
Reference: C5089985
27 l / min

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



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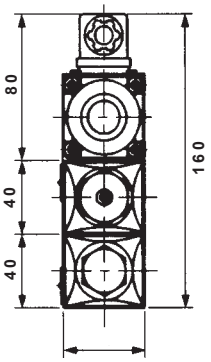
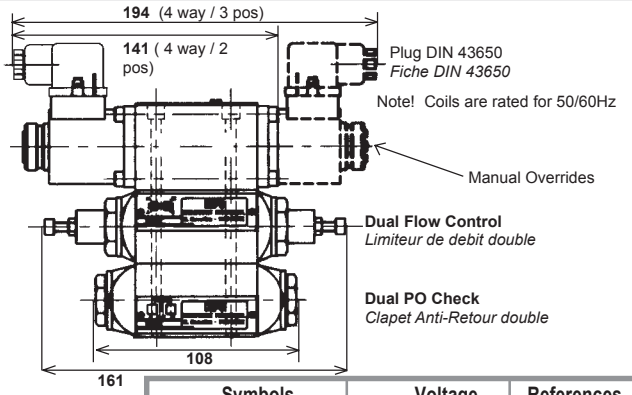
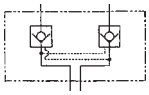
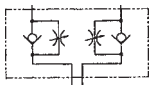
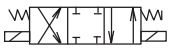
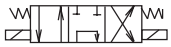




Symbols *Symboles*	Voltage *Tension*	References *Références*
	12 VDC 24 VDC 110 VAC 220 VAC 24 VAC	K5091658 K5091659 K5091660 K5091661 K5091662
	**Dual PO Checks** ***Clapet Anti-Retour double***	K5093053
	**Dual Flow Limitor** ***Limiteur de debit double***	K5093054

Directional Control Valves
Distributeurs **CETOP 3**

Symbols *Symboles*	Voltage *Tension*	References *Références*
	12 VDC 24 VDC 110 VAC 220 VAC 24 VAC	K5091673 K5091674 K5091675 K5091676 K5091677
	12 VDC 24 VDC 110 VAC 220 VAC 24 VAC	K5091668 K5091669 K5091670 K5091671 K5091672
	12 VDC 24 VDC 110 VAC 220 VAC 24 VAC	K5091663 K5091664 K5091665 K5091666 K5091667
	12 VDC 24 VDC 110 VAC 220 VAC 24 VAC	K5091678 K5091679 K5091680 K5091681 K5091682

REMOTE CONTROL

HPI Solution

- With more than 10 m of range, it allows any movement in the work area.

- Accidental operations are prohibited by the security push button.

- 2 and 4 way models available. All kinds of applications are conceivable.

SPECIFICATIONS

Operating Frequency: 433.92Mhz, less than 10mW

Operating Modes:

MonoStable: The contact is maintained as long as the pushbutton is pressed

BiStable (default): Each order requires a counter order. Contact maintained for dwell time.

Dwell time: In BiStable mode a timer controls the period of contact if a counter order is not received.

Motor: 30 seconds
Valve: 120 seconds

Power Supply: 10 to 30 Vdc

Power Consumption: Receiver when inoperative: 15 mA
Receiver when working: 70 mA

Relay Output: At 12Vdc: 15 amps
At 24Vdc: 10 amps

Enclosure rating: Receiver: IP65 Wiring: PE IP68
Environment: -20°C to +50°C

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REPLACEMENT PARTS - MICRO 3G POWERPACKS

MOTORS

AC Motors:		(see pg. 18)
MF1	0,4 kW 12VDC	114223
MF2	0,4 kW 24VDC	114224
HF2	1,0 kW 24VDC	114225
AF1	0,9 Kw 12VDC	114226
AF2	1,2 kW 24VDC	114227

RELAYS

RELAY: 12VDC	K5080015
RELAY: 24VDC	K5080016
BRAID CONNECTOR	101809

BELLHOUSINGS

BELLHOUSING: 42,48C	HPI-9473
BELLHOUSING: 56C	HPI-9472

COUPLINGS

COUPLING: DC & 42/48C Motors	109515
COUPLING: 56C PUMP SIDE	E104846
COUPLING: 56C MOTOR	E104846-1

PUMP SUPPORTS & INTERNAL PARTS

0,25 CC	(PORTS 1 & 2)	E5094917
0,50 CC	STYLE	E5094918
0,75 CC	"	E5094919
1,00 CC	"	E5094920
1,25 CC	"	E5094921
1,50 CC	"	E5094922
2,00 CC	"	E5094923
0,25 CC	(PORTS A & B)	E5094025
0,50 CC	STYLE	E5094026
0,75 CC	"	E5094027
1,00 CC	"	E5094028
1,25 CC	"	E5094029
1,50 CC	"	E5094030
2,00 CC	"	E5094031
CHECK VALVE		K5092284
RELIEF VALVE		K5092915
SHAFT SEAL		103162
PUMP SEAL KIT		K5073819

RESERVOIRS

F	0,5 L	
W	0,75 L	
P	1,0 L	
T	1,1 L	
E	1,5 L	
A	2,0 L	
H	2,5 L	
B	3,0 L	
S	4,0 L	
Z	6,0 L	
C	5,0 L	
U	6,0 L	
M	3,3 L	
Qa	6,5 L	NG6,5
Da	12,0 L	NG12
La	18,0 L	NG20
Ma	30,0 L	NG30

RESERVOIR PARTS

CLAMP: F, W, P	
CLAMP: M	
COLLAR: T, E, A, H, B, S, Z	
COLLAR: C & U	
COLLAR: M	
ELBOW	110232
FILLER CAP	101486

FILTRATION

STRAINER	K5072445
INLET TUBING	109810
INLET CLAMP	OET16701005
RETURN TUBING	K114789
RETURN CLAMP	OET16700989
RELIEF TUBING	K114790

VALVE BLOCKS AND ACCESSORIES

CETOP 3 BASEPLATE	HPI-3961
-SPACER	HPI-3935-2
-O-RING	MNOR019X2
-BANJO BOLT, MAIN BLOCK	HPI-3910-2
-BANJO BOLT, SPACER	HPI-3895
-CAP	HPI-3880-2
2 X SINGLE ACTING BLOCK	E5071414
-SPACER	MTM/3931
-O-RING	MNOR019X2
-ADAPTOR M14x1.5 TO BSPP	E5063190
-BANJO BOLT WITH CAP	108199
INLINE BLOCK (LOAD HOLDING)	
-ADAPTOR M14 TO BSPP	E5063190
-BANJO BOLT	108199
-O-RING	MNOR019X2

CARTRIDGE VALVES, 2 WAY

VNF2G: NO COIL		
VNF2G: 12 VDC	(normally closed)	C5084513
VNF2G: 24 VDC	"	C5084514
VNF2G: 24 VRAC	"	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 lock)	C5067470
VLB: 24 VDC	"	C5067480
VLB: 24 VRAC	"	C5072509
VLB: 115 VRAC	"	C5071260
VLB: 230 VRAC	"	C5071261

CARTRIDGE VALVES, 4 WAY

4/2 WAY: 12VDC	K5095160
4/2 WAY: 24VDC	K5095161
4/3 WAY:12VDC, Y CENTRE	K5095119
4/3 WAY: 12VDC, CLOSED CENTRE	K5095120
4/3 WAY: 24VDC, Y CENTRE	K5095117
4/3 WAY: 24VDC, CLOSED CENTRE	K5095118

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: 230VRAC	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

PRESSURE COMP. FLOW CONTROLS

1,2 l/m	(PORT 3 STYLE)	K5093591
2,3 l/m	"	K5093784
3,3 l/m	"	K5093785
4,4 l/m	"	K5093786
5,6 l/m	"	K5093787
6,7 l/m	"	K5093788
0,9 l/m	(PORT 31 STYLE)	K5094061
1,4 l/m	"	K5092992
2,3 l/m	"	K5092993
3,4 l/m	"	K5092994
4,6 l/m	"	K5092995
6,1 l/m	"	K5092996
7,7 l/m	"	K5092997
9,5 l/m	"	K5092998
11,2 l/m	"	K5092999
13,8 l/m	"	K5093000
16,2 l/m	"	K5093001
18,3 l/m	"	K5093002

PORT ADAPTORS / MISC ITEMS

PLUG: PORTS 1 & 2	
PLUG: PORT 3	K5093708
PLUG: PORT 4	K5092285
BONDED SEAL, M14	9500-14MM
PORT 1&2 ADAPTOR: #6 JIC MALE	OM14-J6
PORT 1&2 ADAPTOR: 1/4" FNPT	OM14-N025
PORT 1&2 ADAPTOR: #6 SAE	OM14-S6
PORT 4 ADAPTOR: #6 JIC MALE	OM14-J6*
PORT 4 ADAPTOR: 1/4" FNPT	HPI-6061
PORT 21&31 RETURN ADAPTOR	K5093711

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

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