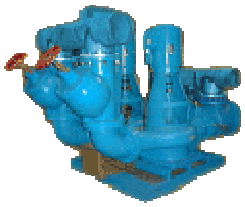
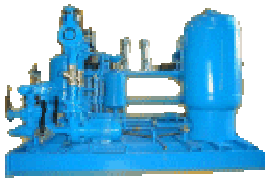
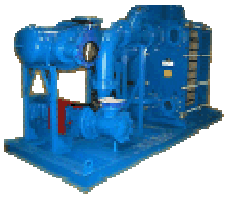
11 Jocama Blvd., Suite 11A, Old Bridge NJ 08857 USA p. 718.824.4901 f. 718.409.3605 www.alstromenergygroup.com

Packaged Pumping Systems Series "FAST PAK"

The Alstrom Corporation designs and manufactures various types of packaged pumping systems for many different applications.

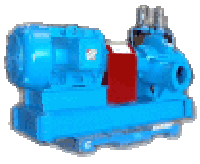




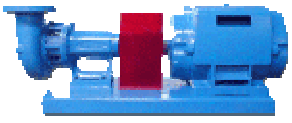
We offer a wide range of packaged HVAC systems to fit your specific needs. Our Packaged Pumping Systems offer the following advantages over field assembled systems: factory hydrostatic, flow and sequence testing, lower installed cost, increased system efficiency, reduced field complexity, single source responsibility, single point power connection, simplified field piping, smaller footprint and more.

- Variable Speed or Constant Speed Pumping
- Primary Chilled Water
- Secondary Chilled Water
- Primary/Secondary Systems
- Heating Water Systems
- Condenser and Feed Water Systems
- Heat Transfer Package Systems
- Fuel Transfer Systems
- Glycol Fill Systems

Everything is self-contained, prewired, installed on the skids and pretested. Custom units are available to meet your specifications.

Circulating, Double Suction Centrifugal Stainless Steel, End Suction, Inline, Horizontal Split Case, Multistage, Submersible, Sump and Sewage Column Pumps.





Air Separators, Expansion Tanks, Triple Duty and Balancing Valves, Butterfly Valves, Check Valves, Flexible Hoses, Thermometers, Pressure Gauges.



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Packaged Pumping Systems
Series "FAST PAK"

ALSTROM ENERGY GROUP LLC

BUILDING BLOCK MODEL # FOR BOOSTER, HEATING & COOLING SYSTEM

2	---	04	100	50	---	B	---	CIL	---	CU	---	CI	2x8	5	34	4V	---	AS	---	M	153
System Layout		Header Size	Flow	TDH		Type		Pump Design		Header Mat'l		Pump Mat'l	Pump Size	HP	RPM	Electric Panel		Air Sep.		Tank	Tank Size

- System Layout: [ ] S: Simplex; [X] D: Duplex; [ ] T: Triplex; [ ] Q:Four Pump; [ ] 5: Five Pump
- Header Size: [ ] Inch
- Flow: GPM
- TDH: TDH
- Type: [B] Booster System; [P] Heat & Cooling System
- Pump Design: [ ] *CIL Inline Close Coupled; [ ] FIL Inline Flex Coupled; [ ] *CES Close Coupl End Suction; [ ] ESF Flex Coupl. End Suction; [ ] VSC Flex Coupl. Vertical Split Case; [ ] HSC Flex Coupled Horiz. Split Case; [ ] MUS Multi-Stage Pumps
- Header Mat'l: [ ] CU Cooper; [ ] SS Stainless; [ ] CS Carb. Steel
- Pump Mat'l: [ ] CI Cast Iron Bronze Fitted; [ ] CS Carbon Steel Bronze Fitted; [ ] BR Bronze Bronze Fitted; [ ] SS Stainless Steel SST Fitted
- Pump Size: Select from Table
- HP: [ ] 1 115V/1P; [ ] 2 208V/3P; [ ] 4 460V/3P
- RPM: [ ] 12 1200 RPM; [ ] 17 1750 RPM; [ ] 34 3450 RPM
- Electric Panel: [ ] X No VFD; [ ] V VFD; [ ] B VFD w/bypass
- Air Sep.: [ ] A0 Without Strainer; [ ] AS With Strainer
- Tank: [ ] X None; [ ] M Mtd.; [ ] U Un-Mtd.
- Tank Size: Gallons [ ] 15; [ ] 24; [ ] 30; [ ] 42; [ ] 53; [ ] 79; [ ] 106; [ ] 132; [ ] 153; [ ] 211; [ ] 264; [ ] 317; [ ] 370; [ ] 423; [ ] 528

BUILDING BLOCK FOR PUMPING SYSTEM SKIDS

SYSTEM LAYOUT

	[ ]	S	Simplex
	[ ]	D	Duplex
(1)	[ ]	T	Triplex
	[ ]	Q	Quadruplex
	[ ]	F	Five Pumps

HEADER SIZE

(2)	[ ]	SIZE INCHES

FLOW

(3)	[ ]	GPM

HEAD PRESSURE

	[ ]	TDH

TYPE

(4)	[ ]	B	Booster System Pumps
	[ ]	P	Heating & Cooling System Pumps

PUMP DESIGN

	[ ]	*CIL	Inline Close Coupled
	[ ]	FIL	Inline Flex Coupled
	[ ]	*CES	Close Coupled End Suction
(5)	[ ]	ESF	Flex Coupled End Suction
	[ ]	HSC	Flex Coupled Horizontal Frame Split Case
	[ ]	VSC	Flex Coupled Vertical Frame Split Case
	[ ]	MUS	Multi-Stage Pumps

HEADER MATERIAL

	[ ]	CO	Copper
(6)	[ ]	ST	Stainless Steel
	[ ]	CA	Carbon Steel

PUMP MATERIAL

	[ ]	CI	Cast Iron Bronze Fitted
	[ ]	CS	Carbon Steel Bronze Fitted
(7)	[ ]	BR	Bronze Bronze Fitted
	[ ]	SS	Stainless Steel SST Fitted

PUMP SIZE

(8)	[ ]	IN / OUT & CASING SIZE

HP MOTOR

(9)	[ ]	5 ETC

RPM

(10)	[ ]	12	1200 RPM
	[ ]	17	1750 RPM
	[ ]	34	3450 RPM

ELECTRIC PANEL

	[ ]	1	115 / 1 Volts
	[ ]	2	208 / 3 Volts
(11)	[ ]	4	460 / 3 Volts
	[ ]	X	No VFD
	[ ]	V	Without By Pass
	[ ]	B	With By Pass

AIR SEPERATOR

(12)	[ ]	AO	Without Strainer
	[ ]	AS	With Strainer

EXPASION TANK

	[ ]	X	None
(13)	[ ]	M	Mounted Mounted
	[ ]	U	Un- Mounted

TANK SIZE

(13)	[ ]	GALLONS 15, 24, 30, 42, 63, 79, 106, 132, 153, 211, 264, 317, 370, 423, 528

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ALSTROM ENERGY GROUP LLC

FAST PAK BOOSTER, HEATING & COOLING PUMPING SYSTEM

FLOW GPM	SIZE INCHES	PSI FT	20 46	25 58	30 69	35 81	40 92	45 104	50 115	60 139	70 162	80 185	100 231
50			IL15-1-34	IL1.255-1.5-34	IL1.255-1.5-34	IL1.255-2-34	IL1.255-2-34	IL28-3-34	IL28-3-34	IL28-5-34	IL28-5-34	IL28-7.5-34	IL28-7.5-34
75			IL1.255-1.5-34	IL1.255-1.5-34	IL1.255-2-34	IL1.255-2-34	IL1.53-3-34	IL28-3-34	IL28-3-34	IL28-5-34	IL28-5-34	IL28-7.5-34	IL28-7.5-34
100			IL1.255-1.5-34	IL1.255-2-34	IL1.255-3-34	IL1.53-3-34	IL1.53-5-34	IL28-3-34	IL28-5-34	IL28-5-34	IL28-5-34	IL28-7.5-34	IL28-10-34
125			IL1.255-2-34	IL1.255-2-34	IL1.255-3-34	IL1.53-3-34	IL1.53-5-34	IL28-3-34	IL28-5-34	IL28-5-34	IL28-7.5-34	IL28-7.5-34	IL28-10-34
150	3		IL35-2-34	IL35-3-34	IL35-3-34	IL35-5-34	IL35-5-34	IL35-7.5-34	IL28-5-34	IL28-5-34	IL28-7.5-34	IL28-7.5-34	IL28-10-34
175			IL35-2-34	IL35-3-34	IL35-3-34	IL35-5-34	IL35-5-34	IL35-7.5-34	IL28-5-34	IL28-5-34	IL28-7.5-34	IL28-7.5-34	IL28-10-34
200			IL35-2-34	IL35-3-34	IL27-5-34	IL35-5-34	IL-35-5-34	IL35-7.5-34	IL28-10-34	IL28-7.5-34	IL28-7.5-34	IL28-7.5-34	IL28-10-34
250			IL35-2-34	IL35-3-34	IL35-5-34	IL35-5-34	IL-35-5-34	IL35-7.5-34	IL28-7.5-34	IL28-7.5-34	IL28-10-34	IL28-15-34	IL210-20-34
300			IL35-3-34	IL35-3-34	IL35-5-34	IL35-5-34	IL-35-5-34	IL28-7.5-34	IL28-7.5-34	IL28-10-34	IL28-10-34	IL28-15-34	IL210-20-34
350			IL35-3-34	IL35-5-34	IL35-5-34	IL35-5-34	IL35-7.5-34	IL28-7.5-34	IL28-10-34	IL28-10-34	IL28-15-34	IL28-15-34	IL210-20-34
400			IL35-5-34	IL35-5-34	IL35-5-34	IL35-7.5-34	IL28-10-34	IL28-10-34	IL28-10-34	IL28-15-34	IL28-15-34	IL28-15-34	IL210-25-34
450	4		IL35-5-34	IL35-5-34	IL35-7.5-34	IL1.57-10-34	IL1.57-10-34	IL1.57-10-34	IL28-15-34	IL28-15-34	IL28-15-34	IL28-20-34	IL210-25-34
500			IL25-7.5-34	IL35-7.5-34	IL37-7.5-34	IL1.57-10-34	IL1.57-10-34	IL1.57-10-34	IL1.57-15-34	IL1.57-15-34	IL28-20-34	IL310-20-34	IL210-30-34
600			ES38-5-17	ES310-7.5-17	ES2.510-7.5-1	ES2.510-10-17	ES310-15-17	ES212-15-17	ES312-15-17	ES312-20-17	0	0	0
700			ES38-5-17	ES310-7.5-17	ES310-10-17	ES2.510-10-17	ES310-15-17	ES312-15-17	ES312-15-17	ES312-20-17	0	0	0
800	6		ES310-7.5-17	ES310-7.5-17	ES310-10-17	ES310-15-17	ES312-15-17	ES312-15-17	ES312-20-17	ES312-20-17	0	0	0
900			ES310-7.5-17	ES310-10-17	ES310-10-17	ES310-15-17	ES312-15-17	ES312-20-17	ES312-20-17	ES312-25-17	0	0	0
1000			ES48-7.5-17	ES310-10-17	ES310-15-17	ES310-15-17	ES410-15-17	ES312-20-17	ES312-25-17	ES412-30-17	0	0	0
1200			ES410-10-17	ES410-15-17	ES310-15-17	ES410-20-17	ES410-20-17	ES412-20-17	ES312-25-17	ES412-30-17	0	0	0
1400			ES410-15-17	ES410-15-17	ES410-15-17	ES410-20-17	ES412-20-17	ES412-25-17	ES412-25-17	ES512-40-17	0	0	0
1600	8		ES410-15-17	ES410-15-17	ES410-20-17	ES412-20-17	ES412-25-17	ES412-30-17	ES412-30-17	ES512-40-17	0	0	0
1800			ES510-15-17	ES510-20-17	ES510-25-17	ES412-25-17	ES412-30-17	ES412-30-17	ES512-40-17	ES512-40-17	0	0	0
2000	10		ES510-15-17	ES510-20-17	ES510-25-17	ES510-30-17	ES412-30-17	ES412-40-17	ES512-40-17	ES512-50-17	0	0	ES516-100-17

CODE: IL35-5-34

INLINE PUMP
SIZE 3X3X5
HP 5
RPM 3450

ES3 10-15-17

END SUCTION
SIZE 4X3X10
HP 15
RPM 1750

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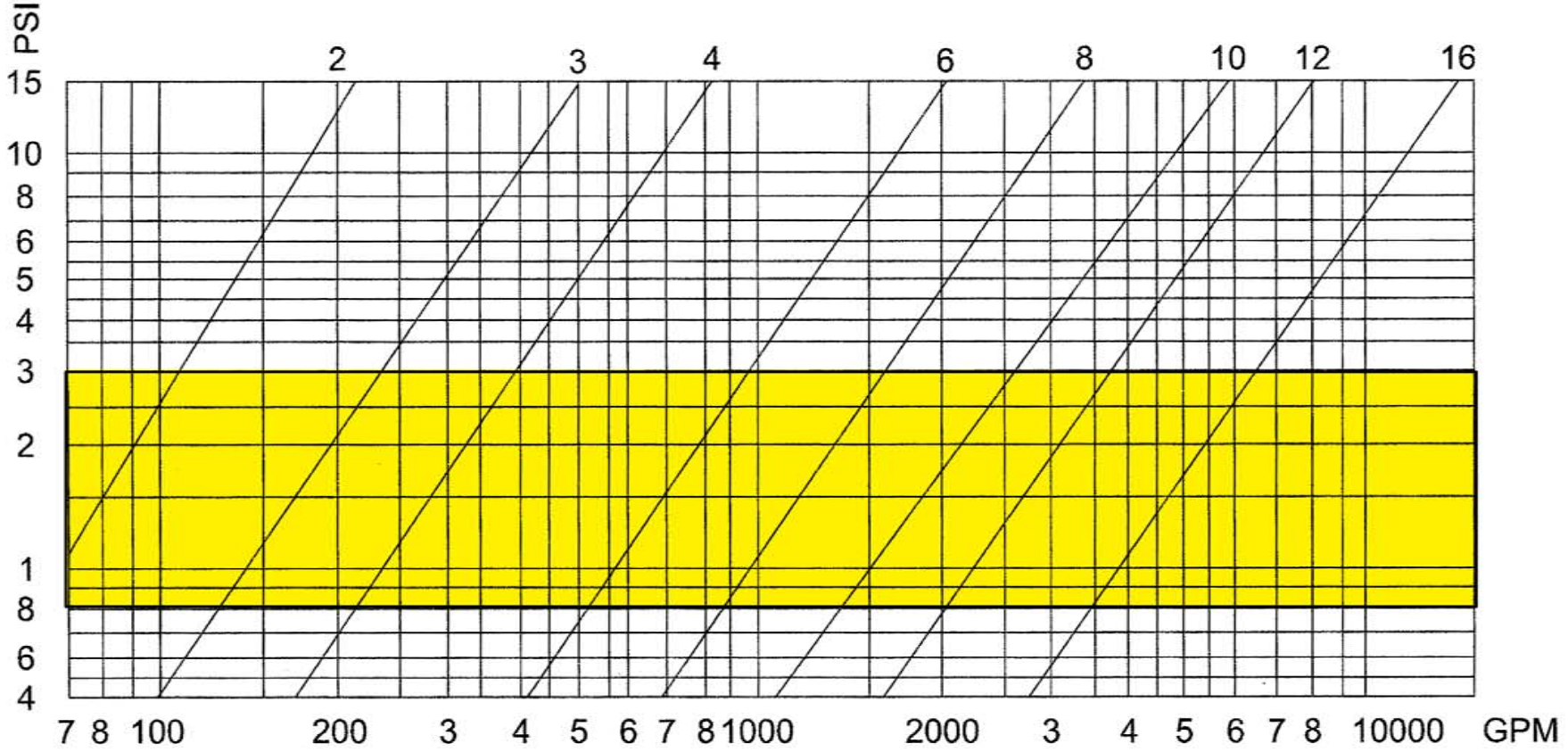
VELOCITY TO GPM CONVERSIONS

in standard wall pipes*
Flow Velocity (ft/sec) x Factor (1 ft/sec) = GPM
Typical HVAC Design Maximum Flow = 4 to 8 ft/sec

Nominal Pipe Size	GPM @ 1 ft/sec	GPM @ 2 ft/sec	GPM @ 4 ft/sec	GPM @ 8 ft/sec	GPM @ 10 ft/sec	GPM @ 12 ft/sec
0.75*	1.7	3.3	6.6	13	17	20
1*	2.7	6	12	24	30	36
1.25*	4.7	9.3	19	37	47	56
1.5*	6.4	13	25	51	64	76
2*	11	21	42	84	105	126
2.5*	15	30	60	119	149	179
3*	23	46	92	184	230	279
4*	40	79	159	318	397	476
6*	90	180	360	720	900	1080
8*	156	312	624	1248	1560	1872
10*	246	492	984	1968	2460	2952
12	353	706	1412	2824	3530	4236
14	430	860	1720	3440	4300	5160
16	569	1138	2276	4552	5690	6828
18	728	1456	2912	5824	7280	8736
20	907	1814	3628	7256	9070	10884
24	1323	2646	5292	10584	13230	15876
30	2094	4188	8378	16755	20940	25133
36	3042	6084	12168	24336	30420	36504
42	4165	8330	16660	33320	41650	49980
48	5465	10930	21861	43722	54650	65583

* Standard Wall and Schedule 40 are the same up to 10"

THE ALSTROM CORPORATION



TYPICAL DRAWING, FINALE DIMENSIONS AND DESIGN MAY VARY

TITLE / TITRE

TRIPLE DUTY VALVE SELECTION CHART

	PROJECT/PROJET		
	CUSTOMER / CLIENT		
	PART LIST N° / LISTE DE MATERIEL N°	DATE / DATE	12/25/08
DRAWN BY / DESSINATEUR: ALEX V.	SCALE / ÉCHELLE: N / A	DRAWING N° / N° DESSIN: SERIES MFV	REV: 0

ALSTROM Manufacturer of Pumps, Heat Exchangers, Tanks and Accessories for HVAC Market
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Email: info@alstromcorp.com Web: www.alstromcorp.com