

 **walvoil**  
FLUID POWER E | MOTION



# OVERVIEW

A member of



预测未来最好的方法是创造未来。  
*The best way to predict the future is to create it*



Walvoil S.p.A. • Headquarters  
Reggio Emilia • Italy



Business Unit Hydrocontrol  
Castel San Pietro (BO) • Italy



Walvoil S.p.A.  
Production and Logistic pole Bibbiano (RE) • Italy



Galtech Site  
Cavriago (RE) • Italy



Walvoil S.p.A. • R & D  
Reggio Emilia • Italy



Walvoil S.p.A. • Test Dept.  
Reggio Emilia • Italy



Walvoil S.p.A. • Electronics  
Dept. • Reggio Emilia • Italy



Walvoil Fluid Power Corp.  
Tulsa • OK, USA



Walvoil Fluid Power Corp.  
Hydrocontrol Business Unit  
Red Wing • MN, USA



Galtech Canada Inc.  
Terrebonne • Canada



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Korea



Walvoil Fluid Power (India)  
Attibele, Bangalore • India



Walvoil Fluid Power (Dongguan)  
Dongguan City • China

## 我们与我们的利益相关者分享的价值观 *The values we share with our stakeholders*

从2015年开始，沃而福Walvoil作为英特帕普集团Interpump阀部门代表，合并了原沃而福Walvoil，海德液压Hydrocontrol 和 高泰克Galtech三个品牌；

集成了液压产品的主要制造商，电子产品和完整的机电一体化系统，Walvoil坚持与客户不同的行业和合作伙伴紧密联系，密切关注未来的发展

由于在意大利以及在全球各地不断发展的分支机构和销售办事处的网络联系的统一大力支持，我们以同样的态度——创造力、创新和激情，与所有的利益相关者一起创造和分享价值

*Since 2015 Walvoil has been representing the Interpump Group's Valves Division merging both the experiences and Walvoil, Hydrocontrol and Galtech brands.*

*Among the main manufacturers of integrated hydraulic products, electronics and complete mechatronics systems, Walvoil keeps on projecting the future of motion in close touch with its customers and its partners from different sectors and markets.*

*Thanks to a strong presence in Italy and to a capillary network of branches and sales offices in continuous development worldwide, with our same attitudes - creativity, innovation, passion -, we are able to create and share value with all our stakeholders.*



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从意大利遍及全球的现实  
*From Italy a growing reality worldwide*



多才又专业的研发人员助力沃而福Walvoil通过其产品追求宏伟的目标：增添功能，能源高效，数字式集成，成本更低，更安全，更环保和“预维护”

主题不仅与企业的需要相一致，而且更重要的是还与我们居住的社区的需要相一致。

Walvoil的测试部门，主要是与意大利和外国专业研究中心相互交流，这是活动的核心。

服务我们的客户，服务于我们生活的社区  
*Serving our customers, serving the communities we live in*



*Talented and competent R&D people support Walvoil to pursue ambitious goals in developing its products: increasing functionality, energy efficiency, digital integration, cost reduction, protection of people and environment and 'predictive maintenance'. Themes not only coherent with the needs of business, but also and above all, of the communities we live in.*

*Walvoil Test Department, interacting with the major Italian and foreign Research Centers, is the pulsating heart of these activities.*



## 移动设备的产品和系统 *Products and systems for mobile equipment*

机械一体化、效率、安全、灵活性、使用便捷性、互连互通、定制是围绕Walvoil制定移动设备系统方案的准则。

**Machine integrated, Efficiency, Safety, Flexibility, User friendliness, Interconnection, tailor-made** are the guidelines around which Walvoil develops its system proposals dedicated to mobile equipment.

### 农业 - Agriculture



### 建筑和土方机械 - Construction & Earth Moving Machines



### 材料处理 - Material Handling



### 工业车辆 - Industrial Vehicles



**换向阀和遥控器**  
*Directional valves and Remote controls*

● **Walvoil** ————— 页 - page **8**

-  整体阀  
*Monoblock valves*
-  片式阀  
*Sectional valves*
-  专用阀  
*Valves for Special Applications*
-  阀前压力补偿器阀在敏感阀和流量共享阀  
*Pressure pre-compensated Load-Sensing and Flow Sharing*
-  液压先导控制阀  
*Hydraulic pilot control valves*
-  油源块  
*Feed units*
-  气动先导控制阀  
*Pneumatic pilot control valves*
-  软轴远程控制  
*Flexible cable remote controls*

● **Hydrocontrol** ————— 页 - page **10**

-  整体阀  
*Monoblock valves*
-  片式阀  
*Sectional valves*
-  专用阀  
*Valves for Special Applications*
-  阀前压力补偿器阀在敏感阀和流量共享阀  
*Pressure pre-compensated Load-Sensing and Flow Sharing*
-  液压先导控制阀  
*Hydraulic pilot control valves*
-  油源块  
*Feed units*

● **Galtech** ————— 页 - page **12**

-  整体阀  
*Monoblock valves*
-  片式阀  
*Sectional valves*
-  专用阀  
*Valves for Special Applications*

**泵和马达**  
*Pumps and Motors*

● **Galtech** ————— 页 - page **13**

-  齿轮泵  
*External gear pumps*
-  齿轮马达  
*External gear motors*
-  流量分配器  
*External gear flow dividers*
-  特殊应用  
*Special applications*

**液压集成**  
*Compact hydraulics*

● **Walvoil** ————— 页 - page **14**

-  SAE 插装阀  
*SAE cavity cartridge valves*
-  液压阀 (阀体部分)  
*Hydraulic valves (Parts in body)*
-  直动式电磁阀  
*Bankable solenoid valves*
-  分流阀  
*Diverter valves*
-  液压集成阀块 (HIC)  
*Hydraulic integrated circuits (HICs)*

**电子元件与PHC控制系统**  
*Electronic components & PHC systems*

● **Walvoil** ————— 页 - page **16**

-  PHC电控系统  
*PHC electronic systems*
-  电控手柄  
*Electronic joysticks*
-  手柄  
*Handles*
-  电控单元  
*Electronic control units*
-  PHC STUDIO  
*PHC STUDIO*

整体阀和片式阀，用于特殊应用的产品，开中心回路配置，负载敏感阀和流量共享阀，在所有应用领域，从最简单到最复杂，满足所有需要。

Monoblock and sectional valves, products designed for special applications, Open Center circuit configurations, Load Sensing and Full Flow Sharing to meet all the needs, from the simplest to the most sophisticated, in all application areas.

**整体阀 - Monoblock valves**



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N
<b>SDM080 - SDM081</b>	25 - 6.6	315 - 4600	1 → 6
<b>SD4</b>	45 - 12	250 - 3600	1
<b>SD5 - SDM110</b>	45 - 12	315 - 4600	1 → 7 / 1 → 6
<b>SDM100</b>	70 - 18	315 - 4600	1 → 8
<b>SD11</b>	70 - 18	315 - 4600	1 → 6
<b>SDM140 - DLM140(L.S.)</b>	80 - 21 / 110 - 29	315 - 4600	1 → 6
<b>SD14</b>	120 - 32	250 - 3600	1
<b>SD18</b>	160 - 42	250 - 3600	1 → 6

**片式阀 - Sectional valves**



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
<b>SD6 - DLS7(L.S.)</b>	45 - 12 / 60 - 16	315 - 4600	12 / 10
<b>SDS100</b>	60 - 16	315 - 4600	10
<b>SD8 - DLS8(L.S.)</b>	80 - 21 / 100 - 26	315 - 4600	12 / 10
<b>SDS140</b>	90 - 24 / 120* - 32*	315 - 4600	12
<b>SDS150</b>	90 - 24	315 - 4600	12
<b>SDS180 - DLS180(L.S.)</b>	160 - 42	315 - 4600	12
<b>SD25</b>	240 - 63	315 - 4600	12
<b>SDS400</b>	400 - 105	315 - 4600	10

注意 (\*): 进油片"流量卸载" - NOTE (\*): with "Flow Unloader" inlet section

**专用阀 - Valves for Special Applications**



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
<b>专为前端式装载机应用而设计 - Designed for Front-end Loader applications</b>			
<b>SDM102 - SDM103</b>	45 - 12	250 - 3600	2
<b>SDM104</b>	45 - 12	250 - 3600	2
<b>SDM122 - DLM122(L.S.)</b>	80 - 21	250 - 3600	2
<b>SDM143 - DLM142(L.S.)</b>	80 - 21	250 - 3600	2
<b>设计用于举升应用 - Designed for lifting applications</b>			
<b>SXP EVO</b>	160 高达 - up to 42	350 - 5100	2 或更多 2 or more
<b>为滑移装载机应用而设计 - Designed for Skid Steer Loader applications</b>			
<b>SDM141</b>	80 - 21	250 - 3600	3

**阀前压力补偿器阀在敏感阀和流量共享阀 - Pressure pre-compensated Load-Sensing and Flow Sharing**



类型 - Type	Q <sub>AB</sub> (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
<b>阀前压力补偿器 - Pressure pre-compensated valves</b>			
<b>DPC130 - DPC130X</b>	100* - 26*	315 - 4600	10
<b>DPC200</b>	200* - 53*	420 - 6100	10
<b>流量共享阀 - Flow Sharing valves</b>			
<b>DPX050</b>	50 - 13	300 - 4350	12
<b>DPX100 - DPX100HF</b>	120 高达 - up to 32	420 高达 - up to 6100	12
<b>DPX100HP</b>			
<b>DPX160 - DPX160HP</b>	160 - 42	420 高达 - up to 6100	10

注意 (\*): 带补偿器工作片 - NOTE (\*): with compensated working section

**注释 - legend:**

- Q = 额定流量范围 - Nominal flow rating
- Q<sub>AB</sub> = 工作油口额定流量 - Nominal flow rating on working ports
- P = 最大压力 - Max pressure
- N = 片数量 - Number of sections



液压先导控制阀 - Hydraulic pilot control valves



类型 - Type	油口 Nr of ports	描述 Description
<b>直接操作型 - linear operation type</b>		
SVM100 - SVM101	2 → 20	局部 - Sectional
SVM150	2	电磁锁定 Electromagnetic detent
<b>操作杆操作 - Joystick operation type</b>		
SVM320	4	低驱动力 Low drive force
SVM400	4	
SVM400EMD - SVM450	4	电磁锁定 Electromagnetic detent
SVM405	4	减震系统 - Damping system
SVM430 - SVM431	4	静液压传动装置
SVM432	4	For hydrostatic transmission
SVM980	4	带不同面积 - With differential area
<b>直接操作和操作杆操作 - Linear and joystick operation type</b>		
SVM600	6	电磁锁定 Electromagnetic detent
<b>脚踏板操作 - Foot-pedal operation type</b>		
SVM500	2	单向单踏板 - Single rocker pedal
SVM510	1	单脚踏板 (双向) - Single foot-pedal
SVM520 - SVM521	2	双脚踏板 - Double foot-pedal
SVM540	4	双踏板 - Double rocker pedal
<b>各种操作方式 - Several operation type</b>		
SVM700	1	手动旋钮 - With handwheel
SVM710	1	按钮 - With pusher

注意: 液压先导控制阀流量 20 l/min - 5.3 US gpm 最大进油压力 100 bar - 1450 psi.  
NOTE: hydraulic pilot control valves have 20 l/min - 5.3 US gpm flow and 100 bar - 1450 psi max. feeding pressure.

油源块 - Feed units



类型 - Type	进油量 Nr of inlets	回油量 Nr of outlets	P1 (bar - psi)	P2 (bar - psi)
AVN020	2	-	350 - 5100	30 / 40 / 50 435 / 580 / 725
FU	2	1 → 4	350 - 5100	-

注意: P1 = 最大进油压力 - P2 = 二次压力  
NOTE: P1 = max. inlet pressure - P2 = secondary pressure.

气动先导控制阀 - Pneumatic pilot control valves



类型 - Type	油口 Nr of ports	描述 Description
<b>直接操作型 - linear operation type</b>		
SP10	2	-
SP30	4 → 16	局部 - Sectional
<b>操作杆操作 - Joystick operation type</b>		
SP01	4	-

注意: 气动先导控制阀流量 350 dm³/min - 12.4 ft³/min 最大进油压力 10 bar - 145 psi  
NOTE: pneumatic pilot control valves have 350 dm³/min - 12.4 ft³/min flow and 10 bar - 145 psi max. feeding pressure.

软管远程控制 - Flexible cable remote controls



类型 - Type	控制油口 Nr of controlled ports	描述 Description
<b>直接操作型 - linear operation type</b>		
TCC5 - TCC10	1 → 10	局部 - Sectional
<b>操作杆操作 - Joystick operation type</b>		
SCF031	4	-



全方位满足不同应用领域的需求：用于开中心回路和全流量共享回路解决方案的整体阀和分段阀设计。

Complete range to meet requests from various application areas: monoblock and sectional valves designed for applications with circuit solutions from Open Center to Full Flow Sharing.

## 整体阀 - Monoblock valves



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N
M45	45 - 12	350 - 5100	1 → 6
M50	50 - 13	350 - 5100	1 → 7
TR55	50 - 13	350 - 5100	1 → 7

## 片式阀 - Sectional valves



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
D9	35 - 10	350 - 5100	12
D3M	55 - 15	350 - 5100	12
DVS10	45 - 12	350 - 5100	12
D4	80 - 22	350 - 5100	12
DVS14	80 - 22	350 - 5100	10
D6	100 - 27	350 - 5100	12
D16	150 - 40	350 - 5100	12
DVS16	160 - 42	350 - 5100	12
D12	180 - 48	350 - 5100	12
DVS20	250 - 67	250 - 3600	12
D20	250 - 67	350 - 5100	12
D25	380 - 100	350 - 5100	12
D40	700 - 185	350 - 5100	10

## 专用阀 - Valves for Special Applications



整体类型 Monoblock type	Q (l/min - US gpm)	P (bar - psi)	N
<b>专为叉车设计 - Designed for Forklift applications</b>			
FL50	50 - 13	350 - 5100	3 → 4
<b>为滑移装载机应用而设计 - Designed for Skid Steer Loader applications</b>			
SK6	90 - 23.5	350 - 5100	3 → 4
SK8	75 - 20	350 - 5100	3
<b>专为轮式装载机设计 - Designed for Wheel Loader applications</b>			
M25	350 - 92	350 - 5100	2 → 3
片式类型 Sectional type	Q (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
<b>专为小型挖掘机设计 - Designed for Mini-excavator applications</b>			
EV24	15 - 4	210 - 3000	12
EV31	35 - 10	250 - 3600	12
EV38	65 - 17	250 - 3600	12
<b>专为拖拉机设计 - Designed for Tractor applications</b>			
D4L	80 - 21	350 - 5100	12
<b>为海事应用设计* - Designed for Marine applications*</b>			
D10-MA	55 - 15	350 - 5100	6
D4-MA	80 - 22	350 - 5100	12
D16-MA	150 - 40	350 - 5100	12
DVS20-MA	250 - 67	275 - 4000	12

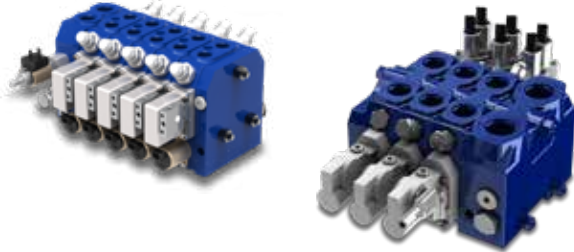
(\* ) 这款新“海事”阀是专门为海事应用而设计的。阀芯，控制组件和回位组件都是用316不锈钢或耐高盐分水环境的材料制造，适合海事应用。

(\* ) The new "Marinized" valve is a valve specifically designed for marine applications. The valves spool, control kits and return kits are made of 316 Stainless Steel or composite to endure the harsh salt water environment of marine applications.

### 注释 - legend:

- Q = 额定流量范围 - Nominal flow rating
- Q<sub>AB</sub> = 工作油口额定流量 - Nominal flow rating on working ports
- P = 最大压力 - Max pressure
- N = 片数量 - Number of sections

阀前压力补偿器在敏感阀和流量共享阀 - *Pressure pre-compensated Load-Sensing and Flow Sharing*



类型 - Type	Q <sub>AB</sub> (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
<b>阀前压力补偿器 - Pressure pre-compensated valves</b>			
MV99	100 - 26	350 - 5100	10
<b>流量共享阀 - Flow Sharing valves</b>			
EX38	100 - 26	350 - 5100	10
EX46	180 - 48	350 - 5100	10
EX54	250 - 68	350 - 5100	8
EX72	350 - 92	350 - 5100	8

液压先导控制阀 - *Hydraulic pilot control valves*



类型 - Type	油口 Nr of ports	描述 Description	P (bar - psi)
<b>直接操作型 - linear operation type</b>			
RCM	2 → 24	局部 - Sectional	60 - 870
RCB	4		60 - 870
<b>操作杆操作 - Joystick operation type</b>			
RCX	4		100 - 1450
RCL	4	电磁锁定 Electromagnetic detent	40 - 580
RCY	4	减少操作力 Reduced operating effort	100 - 1450
<b>直接操作和操作杆操作 - Linear and joystick operation type</b>			
RCL3	6	电磁锁定 Electromagnetic detent	40 - 580
<b>脚踏板操作 - Foot-pedal operation type</b>			
ECF - RCF - RCS	2	单向单踏板 Single rocker pedal	100 - 1450
RCD	1	双脚踏板 Double foot-pedal	60 - 870
RCT	2	双踏板 Double rocker pedal	100 - 1450
<b>各种操作方式 - Several operation type</b>			
RCV	1	手动旋钮 - With handwheel	100 - 1450

注意: 液压先导控制阀流量 12 l/min. - 3.2 US gpm.  
NOTE: hydraulic pilot control valves have 12 l/min - 3.2 US gpm.

油源块 - *Feed units*



类型 - Type	进油量 Nr of inlets	回油量 Nr of outlets	P1 (bar - psi)	P2 (bar - psi)
SU	3	-	350 - 5100	30 / 40 / 50 435 / 580 / 725
SE	3	1 → 3	350 - 5100	-

注意: P1 = 最大进油压力 - P2 = 二次压力  
NOTE: P1 = max.inlet pressure - P2 = secondary pressure.

## 方向控制阀 - DIRECTIONAL CONTROL VALVES



这些阀设计紧凑、坚固耐用，适用于要求小尺寸空间和低成本。

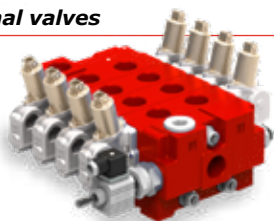
These valves with compact and robust design are used for applications requiring small sizes, simplicity and low costs.

### 整体阀 - Monoblock valves



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N
Q15	15 - 4	250 - 3600	1
GMV15	15 - 4	280 - 4050	2 → 4
Q25	30 - 8	350 - 5100	1 → 8
Q35	40 - 11	300 - 4350	1
Q45	50 - 13	350 - 5100	1 → 8
Q75	80 - 22	350 - 5100	1 → 6
Q95	100 - 27	350 - 5100	1 → 6

### 片式阀 - Sectional valves



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
Q30	30 - 8	350 - 5100	10
Q50	50 - 13	350 - 5100	10
GSV50	50 - 13	350 - 5100	10
Q80	80 - 22	350 - 5100	10
Q130	130 - 36	350 - 5100	10
Q160	160 - 42	350 - 5100	10

### 专用阀 - Valves for Special Applications



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
<b>专为移动破碎机设计 - Designed for Mobile Crushers</b>			
GMV115	110 - 03	320 - 4700	1

#### 注释 - legend:

Q = 额定流量范围 - Nominal flow rating

Q<sub>AB</sub> = 工作油口额定流量 - Nominal flow rating on working ports

P = 最大压力 - Max pressure

N = 片数量 - Number of sections

## 泵和马达 - PUMPS AND MOTORS



铝制和铸铁的齿轮泵和齿轮马达系列广，可配置标准法兰和特殊法兰以及轴。Galtech齿轮泵可以很容易用不同排量 and 不同系列组合成多联泵。

A wide range of gear pumps and motors in both aluminium and cast iron, which can be configured with standard and special flanges and shafts. Galtech gear pumps can be easily combined into multiple units with different displacements and groups.

### 齿轮泵 - External gear pumps



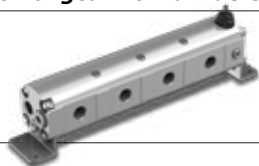
类型 Type	系列 Series	C (cm <sup>3</sup> /转 - in <sup>3</sup> /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rpm - rpm)
1SP	1 系列 - Group 1	0,89 → 9,78 - 0.05 → 0.60	240 - 3500	6000
2SP	2 系列 - Group 2	4 → 31,5 - 0.24 → 1.92	250 - 3600	4000
2SPW	2 系列 - Group 2	14 → 31,5 - 0.85 → 1.92	250 - 3600	3500
3GP	3 系列 - Group 3	19,3 → 77,2 - 1.2 → 4.7	250 - 3600	3500
3TPW	3 系列 - Group 3	23,9 → 79,8 - 1.45 → 4.87	300 - 4300	3000

### 齿轮马达 - External gear motors



类型 Type	系列 Series	C (cm <sup>3</sup> /转 - in <sup>3</sup> /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rpm - rpm)
1SM	1 系列 - Group 1	0,89 → 9,78 - 0.05 → 0.60	210 - 3050	6000
2SM	2 系列 - Group 2	4 → 31,5 - 0.24 → 1.92	230 - 3350	4000
3SM	3 系列 - Group 3	19,3 → 77,2 - 1.2 → 4.7	250 - 3600	3500

### 流量分配器 - External gear flow dividers



类型 Type	系列 Series	C (cm <sup>3</sup> /转 - in <sup>3</sup> /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rpm - rpm)
1SF	1 系列 - Group 1	1,18 → 7,76 - 0.07 → 0.47	240 - 3500	4800
2SF	2 系列 - Group 2	4 → 26 - 0.24 → 1.59	250 - 3600	4000

### 特殊应用 - Special applications



类型 Type	系列 Series	C (cm <sup>3</sup> /转 - in <sup>3</sup> /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rpm - rpm)
<b>电液风扇驱动系统 - Electrohydraulic Fan Drive system</b>				
2SM+FANR	2 系列 - Group 2	4 → 31,5 - 0.24 → 1.92	240 - 3500	4800

注释 - legend:

C = 排量 - Displacement

P = 最大连续压力 - Max continuous pressure

V = 转速 - Rotation speed



Walvoil由SAE系列插装阀和阀体组成紧凑液压装置，完美的HIC定制手动、电磁切换阀和电磁阀换向阀。

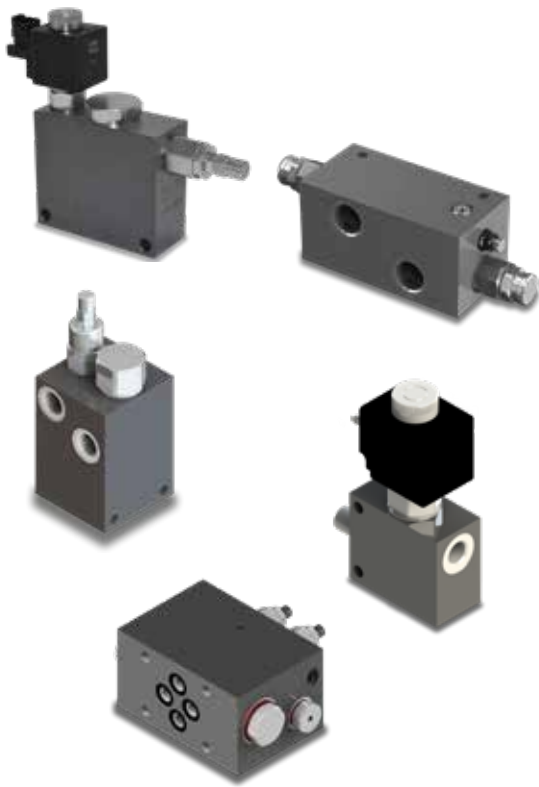
Walvoil compact hydraulics consist of the range of SAE cartridge valves and Parts in Body, fully customizable HICs, manual and electric diverter valves and bankable solenoid valves.

## SAE 插装阀 - SAE cavity cartridges



类型 - Type	Q 高达 - up to (l/min - US gpm)	P 高达 - up to (bar - psi)
<b>压力控制阀 - Pressure control valves</b>		
溢流阀 - Pressure relief valves: <b>MC-MD-MG-MP</b>	150 - 40	350 - 5100
减压阀 - Pressure reducing valves: <b>RB-RD-RM-RPSW-SE-SP-SG</b>	150 - 40	350 - 5100
顺序阀 - Sequence valves: <b>SW-SE-SP-SG</b>	180 - 48	350 - 5100
<b>控制阀 - Motion control valves</b>		
先导控制单向阀 - Pilot operated and check valves: <b>UC-UT-BC</b>	100 - 26	350 - 5100
平衡阀 - Counterbalance valves: <b>CA-CC</b>	150 - 40	350 - 5100
<b>流量控制阀 - Flow control valves</b>		
针阀 - Needle valves: <b>NB-NU-NT-EE-EC</b>	100 - 26	350 - 5100
流量调节器压力补偿阀 - Flow regulator pressure compensated valves: <b>PW-PU-PP-PD</b>	150 - 40	350 - 5100
<b>方向控制阀 - Directional control valves</b>		
电磁方向阀 - Directional solenoid valves: <b>EA-EE-EC-EF-EH-EW-EJ-EL-ER-ET</b>	150 - 40	380 - 5500
<b>逻辑阀 - Logic valves</b>		
逻辑阀 - Logic valves: <b>LA-LB-LC-LD</b>	190 - 50.2	350 - 5100

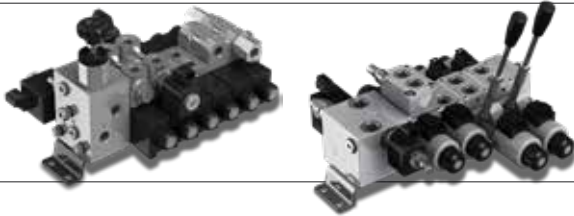
## 液压阀 (阀体部分) - Hydraulic valves (Parts in Body)



类型 - Type	Q 高达 - up to (l/min - US gpm)	P 高达 - up to (bar - psi)
<b>压力控制阀 - Pressure control valves</b>		
溢流阀 - Pressure relief valves: <b>VMD-VMP-VMPP-VMPD-VMDL-VMDS-PBL-VAIL-VADDL-VBDC-VMDA-VAA</b>	250 - 66	350 - 5100
减压阀 - Pressure reducing valves: <b>VRPRL</b>	50 - 13.2	350 - 5100
顺序阀 - Sequence valves: <b>VDSRL-VDS D</b>	200 - 52.8	350 - 5100
<b>控制阀 - Motion control valves</b>		
单向阀 - Check valves: <b>VUI-VUS-VUC-VT-VBD-VB</b>	250 - 66	400 - 5800
先导控制单向阀 - Pilot operated check valves: <b>VUPSL-VBPSL-VRSE-VBPSF-VRPSE-VBPDL-VRDE-VBPDF-VRPDE</b>	130 - 34.3	350 - 5100
平衡阀 - Counterbalance valves: <b>VOSL-VOSLP-VODL-VABAL</b>	180 - 47.6	400 - 5800
<b>流量控制阀 - Flow control valves</b>		
针阀 - Needle valves: <b>VSRU-VSRB-VRFB-VRFU</b>	280 - 74	350 - 5100
流量调节器压力补偿阀 - Flow regulator pressure compensated valves: <b>VPR-VPF-VDR-VSCOR-VDFR</b>	450 - 119	350 - 5100
<b>方向控制阀 - Directional control valves</b>		
电磁方向阀 - Directional solenoid valves: <b>VE</b>	160 - 42.3	350 - 5100
<b>逻辑阀 - Logic valves</b>		
行程阀 - Stroke end valves: <b>FC</b>	60 - 15.9	300 - 4350
卸荷阀 - Unloader valves: <b>VDA</b>	100 - 26.4	350 - 5100
再生阀 - Regenerative valves: <b>VRCL</b>	150 - 39.6	350 - 5100
双泵“高低压”卸荷阀 - Two pumps "hi-low" unloading valves: <b>VEP</b>	250 - 66	350 - 5100
自动换向阀 - Automatic reversing valves: <b>SD-VIA</b>	65 - 17.2	210 - 3050

注释 - legend:  
Q = 额定流量范围 - Nominal flow rating  
P = 最大压力 - Max pressure

直动式电磁阀 - Bankable solenoid valves



类型 - Type	Q (l/min - US gpm)	P (bar - psi)	N1
SDE030	30 - 8	250 - 3600	9
SDE060	60 高达 - up to 16	315 - 4600	9
SDX060	45 高达 - up to 12	300 - 4300	8

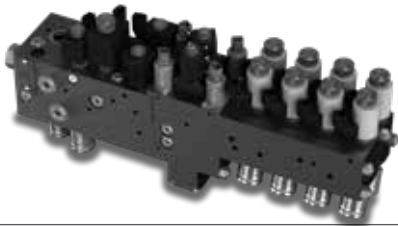
分流阀 - Diverter valves



类型 - Type	描述 Description	Q 高达 - up to (l/min - US gpm)	P 高达 - up to (bar - psi)	N 高达 - up to
<b>整体阀 - Monoblock valves</b>				
DHZ*	机械旋转控制 Mechanical rotary spool control	280 - 74	450 - 6500	8
DF	机械控制 Mechanical spool control	280 - 74	315 - 4600	6
SVM - IF	机械控制 Mechanical spool control	350 - 92.5	350 - 5100	6
DFE	电磁阀控制 Solenoid spool control	140 - 37	315* - 4600*	12
SVE	电磁阀控制 Solenoid spool control	100 - 26.4	350 - 5100	6
<b>片式阀 - Sectional valves</b>				
DFE	电磁阀控制 Solenoid spool control	80 - 21	315* - 4600*	10

注释 - NOTES (●): DHZ 阀只能在无压力下操作 (最大压力: 25 bar - 350 psi) - DHZ valves can only be operated without pressure (max. 25 bar - 350 psi). (\*): 排出 - with drain

液压集成阀块 (HIC) - Hydraulic Integrated Circuits (HIC)



HIC 液压集成回路的应用, 无论是在移动还是工业领域, 都提供了重要的优势。因此, Walvoil 为不同的应用领域和客户的需求, 研发并定制特殊阀块。这些定制的阀块可以做成与换向阀安装的法兰, 连接过滤器, 此外, 还可以安装在泵、马达和传动装置的连接面上。

The usage of integrated hydraulic circuits HIC (hydraulic integrated circuits) offers important advantages both in the mobile and in the industrial sector. Walvoil therefore studies and realizes special manifolds for the different applications and as per the customer needs. These customized manifolds can need flanges of directional valves and filters, besides being face mounting to pumps, motors and transmissions.

注释 - legend:

- Q = 额定流量范围 - Nominal flow rating
- P = 最大压力 - Max pressure
- N = 片数量 - Number of sections
- N1 = 油口数量 - Number of ports



Walvoil提供广泛的电子设备：比例控制手柄，控制单元，多种功能的手柄和从重要OEM在应用领域获得经验的完整系统。

Walvoil offers a wide range of electronic devices: proportional joysticks, control units, multifunctional handles and complete systems from the experience gained with important OEM in their field of application.

**PHC电控系统 - PHC electronic systems**



类型 - Type	接口 Interface	比例控制功能 Prop. functions	数字输出 Digital outputs	使能 Dead man
PHC400F	比例控制 / 电位 Potentiometric / Ratiometric	4		●
PHC400C	CAN bus	4		●
PHC400P	比例控制 / 电位 Potentiometric / Ratiometric	4		-
PHC200F	比例控制 / 电位 Potentiometric / Ratiometric	2		●
PHC220C	CAN bus	2	2	-
PHC250C	CAN bus	2	3	-
PHC251C	CAN bus	2	3	-
PHC640C	CAN bus	6	2	●

**电控手柄 - Electronic joysticks**



类型 - Type	接口 Interface	信号范围 Signal range	比例控制功能 Prop. functions	开/关功能 On/off functions
MDN	-	50% → 75% V 电池 - V battery	1	-
AJW	-	0.5 V → 4.5 V	2 → 6	10 高达 up to 10
CJW	CANopen - SAEJ1939 ISOBUS	-	2 → 6	10 高达 up to 10
DJW	CANopen - CANopen Safety - SAEJ1939 ISOBUS	-	2 → 6	10 高达 up to 10
HJW	CANopen - CANopen Safety - SAEJ1939 ISOBUS	-	2 → 6	10 高达 up to 10

**手柄 - Handles**



类型 - Type	最大比例控制功能 Max proportional functions	开/关功能 Max on/off functions	使能 Dead man
AMH series	1	10	●
MTH series	4	10	●
XMH series	3	6	-
P series	2	8	●
H series	1	8	●
S series	1	4	-
V series	-	1	-
J series	-	1	-
10 series	-	1	-



电控单元 - Electronic control units



类型 - Type	接口 Interface	输入* - Inputs*	输出* - Outputs*
<b>CED252</b>	RS232, 9600, 8, n, 1 CANopen - SAEJ1939 - ISObus	A= 11 高达 - up to 11 D= 1	P= 5 / N= 5
<b>CED040</b>	CANopen - SAEJ1939	A= 3 / D= 6	N= 4
<b>CED160</b>	CANopen - SAEJ1939	A= 3 / D= 6	P= 1 一对 - 1 pair N= 6
<b>CED400W</b>	RS232, 9600, 8, n, 1 CANopen - SAEJ1939	A= 4 高达 - up to 4 D= 6 高达 - up to 6	P= 12
<b>PVD200</b>	RS232, 9600, 8, n, 1 CANopen - SAEJ1939	A= 4 高达 - up to 4	P= 2 成对 - 2 pairs
<b>CEP1200S</b>	RS232, 9600, 8, n, 1 CANopen - SAEJ1939 Ethernet BroadR-Reach, LIN	A= 32 高达 - up to 32 D= 12 高达 - up to 12	P= 48

注释 - NOTES (\*): "A" 模拟输入, "D" 数字输入 - "A" analog inputs, "D" digital inputs. (\*): "P" 比例输出, "N" 开/关输出 - "P" proportional outputs, "N" on/off outputs

PHC STUDIO - PHC STUDIO



PHC Studio是一个集成开发工作平台(IDE)用于开发和下载输入到CED400W电子控制单元:  
 • 自定义应用逻辑程序  
 • 工作参数。

无论是液压或电气, PHC Studio提供完整的应用控制。

**标准的编程语言**

- 基于IEC 61131-3 PLC标准的所有5种编程语言。

PHC Studio is an Integrated Development Environment (IDE) used to develop and download into the CED400W electronic control unit the:

- Custom application logics
- Working parameters.

PHC Studio allows to have the complete control of the application, either hydraulic and electronic.

**Standard programming languages**

- Compliance with all the 5 programming languages of the IEC 61131-3 PLC Standard

WSTpro - WSTpro



这款新WSTpro 能够与所有沃而福Walvoil电子元件连接, 它集成所有现有的工具 (启动加载, 配置, 诊断)

这个新式人体工程和直觉图像人机界面, 简洁并提高了工具的可视性。

**通过WSTpro 可以**

- 校准和配置具体的应用
- 监控实时的 I/O 信号
- 执行现场系统的诊断
- 更新现场的固件和软件

The new WSTpro can be connected with all Walvoil electronic components and it integrates all the current tools (bootloader, configurator, diagnostics). **The new ergonomic and intuitive graphical human machine interface simplifies and improves the tool's usability.**

**Through WSTpro it is possible to:**

- Calibrate and to configure the applications
- Monitor I/O signals in Real Time
- Execute in-field system Diagnostic
- Update both Firmware and Software in the field





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总部、分公司和代表处  
*Headquarters, Subsidiaries and Representative Offices*

**Walvoil S.p.A. - 总部 - Headquarters**  
Via Adige, 13/D . 42124 Reggio Emilia . Italy  
TEL. +39 0522 932411 . info@walvoil.com -  
www.walvoil.com

**Business Unit Hydrocontrol**  
Via Natale Salieri, 6 . 40024  
Castel S. Pietro Terme . Bologna . Italy  
TEL. +39 051 6959411

**Galtech Site**  
Via Portella della Ginestra, 10 . 42025 Cavriago  
Zona Industriale Corte Tegge . Reggio Emilia . Italy  
TEL. +39 0522 932411

澳大利亚 . AUSTRALASIA

**Walvoil Fluid Power Australasia Pty Ltd**  
13 Vanessa Way . Delahey VIC 3037 . Melbourne . Australia  
TEL. +61 458 918 750 . australasia@walvoil.com

巴西 . BRAZIL

**Interpump Hydraulics Brasil Ltda - Walvoil Division**  
Gilberto de Zorzi, 525 . Forqueta Caxias do Sul (RS)  
TEL. +55 54 3223 2373 . infobrasil@walvoil.com

加拿大 . CANADA

**Galtech Canada Inc.**  
3100, Jacob Jordan . Terrebonne . Qc J6X 4J6 . Canada  
TEL. +1 450 477 1076 Ext:225 . info@galtechcanada.com

中国 . CHINA

**Walvoil Fluid Power (Dongguan) Co. Ltd**  
1st Floor, the Third Factory Area, Sijia, Shijie Town, Dongguan  
City, Guangdong province, China.  
TEL. +86 769 81816189-8020 . FAX. +86 769 81816589  
info@walvoil.com.cn

韩国 . SOUTH KOREA

**Walvoil Fluid Power Korea Ltd.**  
80-15, Oseongsandan 1Ro,  
Oseong-Myun, Pyungtaek, Kyungki .  
Korea 451-872 . TEL. +82 31 682 6030  
info@walvoil.co.kr

法国 . FRANCE

**Walvoil Fluid Power France**  
362 rue de Bretagne . Vritz . 44540 Vallons-de-l'Erdre  
TEL. +33 2 41 94 41 06 . france@walvoil.com

印度 . INDIA

**Walvoil Fluid Power (India) PVT. LTD.**  
No. 19, 2nd Cross, 2nd Main, KIADB Industrial Area, Attibele,  
Anekal Taluk, Bangalore - 562107  
TEL. +91 80 4184 2900 . info@walvoil.co.in

美国 . U.S.A.

**Walvoil Fluid Power Corp.**  
4111 North Garnett Tulsa, OK 74116, USA  
TEL. +1 918 858 7100 . info@walvoilfluidpower.com

**Walvoil Fluid Power Corp. Hydrocontrol Business Unit**  
1109, Technology Drive . Red Wing . MN 55066 . U.S.A.  
TEL. +1 651 212 6400 . usa@hydrocontrol-inc.com

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