

 **walvoil**
FLUID POWER EMOTION

 walvoil

 hydro control

 Galtech

沃而福



OVERVIEW

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



Walvoil Fluid Power Korea
Pyeongtaek, Gyeonggi •
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年以来，Wavloil 沃而福作为 Interpump 英特帕普集团的阀事业部代表，并购了原Walvoil 沃而福，Hydro-Control 海德液压 和 Galtech高泰克三个品牌。

Walvoil 沃而福整合原主要品牌的优势，将液压，电子，集成块产品，并持续保持与各个行业及客户紧密合作。得益于在意大利的成功，我们将这些优势：创新、热情推广到世界各个子公司，让我们有能力创造价值并分享成果。

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.



ly



p.



来自意大利实现全球增长
From Italy a growing reality worldwide



在创新和专业的研发人员支持下，通过增加功能，提高能效，数字化控制，降低成本，提高生产率，保护环境，“预维护”的新产品，实现Walvoil 沃而福集团的长远目标，我们的主题是不仅服务我们的客户，而且更加要服务于我们生活的社区。
Walvoil 沃而福测试团队，与意大利和全球的主要研发中心相互交流，起到核心作用。

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



物料搬运 - Material Handling

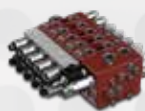


特种车辆 - Industrial Vehicles



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
SDM080 - SDM081	25 - 6.6	315 - 4600	1 → 6
SD4	45 - 12	250 - 3600	1
SD5 - SDM110	45 - 12	315 - 4600	1 → 7 / 1 → 6
SDM100	70 - 18	315 - 4600	1 → 8
SD11	70 - 18	315 - 4600	1 → 6
SDM140 - DLM140(L.S.)	80 - 21 / 110 - 29	315 - 4600	1 → 6
SD14	120 - 32	250 - 3600	1
SD18	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)
SD6 - DLS7(L.S.)	45 - 12 / 60 - 16	315 - 4600	12 / 10
SDS100	60 - 16	315 - 4600	10
SD8 - DLS8(L.S.)	80 - 21 / 100 - 26	315 - 4600	12 / 10
SDS140	90 - 24 / 120*- 32*	315 - 4600	12
SDS150	90 - 24	315 - 4600	12
SDS180 - DLS180(L.S.)	160 - 42	315 - 4600	12
SD25	240 - 63	315 - 4600	12
SDS400	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)
专为前端式装载机应用而设计 - Designed for Front-end Loader applications			
SDM102 - SDM103	45 - 12	250 - 3600	2
SDM104	45 - 12	250 - 3600	2
SDM122 - DLM122(L.S.)	80 - 21	250 - 3600	2
SDM143 - DLM142(L.S.)	80 - 21	250 - 3600	2
设计用于举升应用 - Designed for lifting applications			
SXP EVO	160 高达 - up to 42	350 - 5100	2 或更多 2 or more
为滑移装载机应用而设计 - Designed for Skid Steer Loader applications			
SDM141	80 - 21	250 - 3600	3
叉车应用的设计 - Designed for Forklift applications			
DPM050	55 - 14.5	280 - 4060	4

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 _{AB} (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
阀前压力补偿器 - Pressure pre-compensated valves			
DPC130 - DPC130X	100* - 26*	315 - 4600	10
DPC200	200* - 53*	420 - 6100	10
流量共享阀 - Flow Sharing valves			
DPX050	50 - 13	300 - 4350	12
DPX100 - DPX100HF	120 高达 - up to 32	420 高达 - up to 6100	12
DPX100HP			
DPX160 - DPX160HP	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_{AB} = 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
直接操作型 - linear operation type		
SVM100 - SVM101	2 → 20	局部 - Sectional
SVM150	2	电磁锁定 Electromagnetic detent
操作杆操作 - Joystick operation type		
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
直接操作和操作杆操作 - Linear and joystick operation type		
SVM600	6	电磁锁定 Electromagnetic detent
脚踏板操作 - Foot-pedal operation type		
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
各种操作方式 - Several operation type		
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
直接操作型 - linear operation type		
SP10	2	-
SP30	4 → 16	局部 - Sectional
操作杆操作 - Joystick operation type		
SPO1	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.

软轴远程控制 - Flexible cable remote controls



类型 - Type	控制油口 Nr of controlled ports	描述 Description
直接操作型 - linear operation type		
TCC5 - TCC10	1 → 10	局部 - Sectional
操作杆操作 - Joystick operation type		
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
专为叉车设计 - Designed for Forklift applications			
FL50	50 - 13	350 - 5100	3 → 4
为滑移装载机应用而设计 - Designed for Skid Steer Loader applications			
SK6	90 - 23.5	350 - 5100	3 → 4
SK8	75 - 20	350 - 5100	3
专为轮式装载机设计 - Designed for Wheel Loader applications			
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)
专为小型挖掘机设计 - Designed for Mini-excavator applications			
EV24	15 - 4	210 - 3000	12
EV31	35 - 10	250 - 3600	12
EV38	65 - 17	250 - 3600	12
专为拖拉机设计 - Designed for Tractor applications			
D4L	80 - 21	350 - 5100	12
为海事应用设计* - Designed for Marine applications*			
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

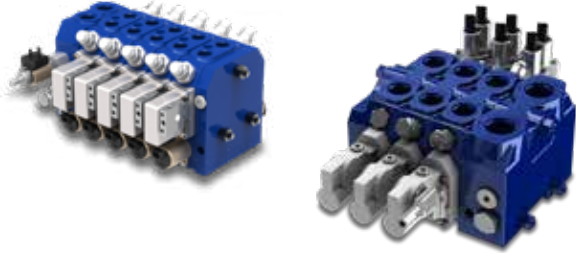
(*) 这款新“海事”阀是专门为海事应用而设计的。阀芯、控制组件和回位组件都是用316不锈钢或耐高盐分水环境的材料制造，适合海事应用。

(*) 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_{AB} = 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_{AB} (l/min - US gpm)	P (bar - psi)	N (高达 - up to)
阀前压力补偿阀 - Pressure pre-compensated valves			
MV99	100 - 26	350 - 5100	10
流量共享阀 - Flow Sharing valves			
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)
直接操作型 - linear operation type			
RCM	2 → 24	局部 - Sectional	60 - 870
RCB	4		60 - 870
操作杆操作 - Joystick operation type			
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
直接操作和操作杆操作 - Linear and joystick operation type			
RCL3	6	电磁锁定 Electromagnetic detent	40 - 580
脚踏板操作 - Foot-pedal operation type			
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
各种操作方式 - Several operation type			
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。

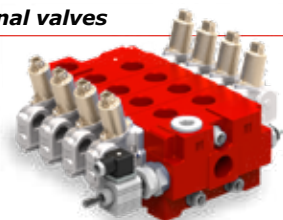
These valves with compact and robust design are used for applications requiring small sizes, simplicity and low costs.

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)
专为移动破碎机设计 - Designed for Mobile Crushers			
GMV115	110 - 03	320 - 4700	1

注释 - legend:

Q = 额定流量范围 - Nominal flow rating

Q_{AB} = 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



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。

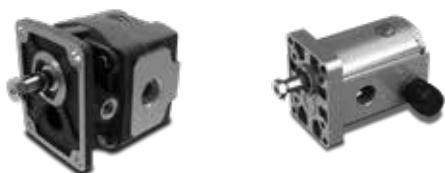
A wide range of gear pumps and motors in both aluminium and cast iron, which can be configured with standard and special flanges and shafts. Galtech gear pumps can be easily combined into multiple units with different displacements and groups.

齿轮泵 - External gear pumps



类型 Type	系列 Series	C (cm ³ /tr - in ³ /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rev/min - rpm)
1SP	1 系列 - Group 1	0,89 → 9,78 - 0.05 → 0.60	240 - 3500	6000
2XP	2 系列 - Group 2	4,1 → 31,5 - 0.24 → 1.92	250 - 3600	4000
2XPW	2 系列 - Group 2	11,2 → 31,5 - 0.68 → 1.92	270 - 3900	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 ³ /tr - in ³ /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rev/min - rpm)
1SM	1 系列 - Group 1	0,89 → 9,78 - 0.05 → 0.60	210 - 3050	6000
2XM	2 系列 - Group 2	4,1 → 31,5 - 0.24 → 1.92	230 - 3350	4000
2XMW	2 系列 - Group 2	11,2 → 31,5 - 0.68 → 1.92	250 - 3600	3500
3GM	3 系列 - Group 3	19,3 → 77,2 - 1.2 → 4.7	250 - 3600	3500
3TMW	3 系列 - Group 3	23,9 → 79,8 - 1.45 → 4.87	270 - 3900	3000

流量分配器 - External gear flow dividers



类型 Type	系列 Series	C (cm ³ /tr - in ³ /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rev/min - 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 ³ /tr - in ³ /rev)	P 高达 - up to (bar - psi)	V 高达 - up to (rev/min - rpm)
电液风扇驱动系统 - Electrohydraulic Fan Drive system				
2XM+FANR	2 系列 - Group 2	4 → 31,5 - 0.24 → 1.92	230 - 3350	4000
2XMW+FANR	2 系列 - Group 2	11,2 → 31,5 - 0.68 → 1.92	250 - 3600	3500

注释 - legend:

C = 排量 - Displacement

P = 最大连续压力 - Max continuous pressure

V = 转速 - Rotation speed



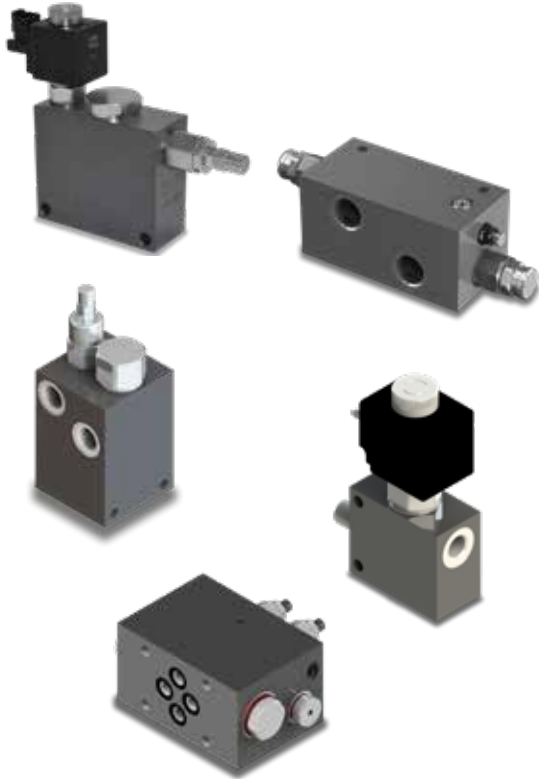
Walvoil由SAE系列插装阀和阀体组成紧凑液压装置，完美的HIC定制手动、电磁切换阀和电磁阀换向阀。
Walvoil compact hydraulics consist of the range of SAE cartridge valves and Parts in Body, fully customizable HICs, manual and electric diverter valves and bankable solenoid valves.

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

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

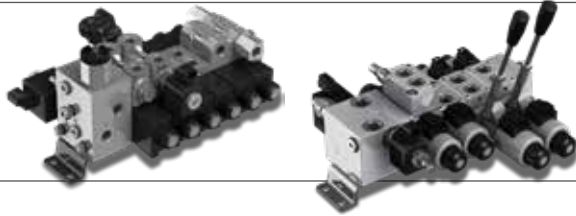


类型 - Type	Q 高达 - up to (l/min - US gpm)	P 高达 - up to (bar - psi)
压力控制阀 - Pressure control valves		
溢流阀 - Pressure relief valves: VMD-VMP-VMPP-VMPD-VMDL-VMDS-PBL-VAIL-VADDL-VBDC-VMDA-VAA	250 - 66	350 - 5100
减压阀 - Pressure reducing valves: VRPRL	50 - 13.2	350 - 5100
顺序阀 - Sequence valves: VDSRL-VDSD	200 - 52.8	350 - 5100
控制阀 - Motion control valves		
单向阀 - Check valves: VUI-VUS-VUC-VT-VBD-VB	250 - 66	400 - 5800
先导控制单向阀 - Pilot operated check valves: VUPSL-VBPSL-VRSE-VBPSF-VRPSE-VBPDL-VRDE-VBPDF-VRPDE	130 - 34.3	350 - 5100
平衡阀 - Counterbalance valves: VOVL-VOVSLP-VODL-VABAL	180 - 47.6	400 - 5800
流量控制阀 - Flow control valves		
针阀 - Needle valves: VSRU-VSRB-VRFB-VRFU	280 - 74	350 - 5100
流量调节器压力补偿阀 - Flow regulator pressure compensated valves: VPR-VPF-VDR-VSCOR-VDFR	450 - 119	350 - 5100
方向控制阀 - Directional control valves		
电磁方向阀 - Directional solenoid valves: VE	160 - 42.3	350 - 5100
逻辑阀 - Logic valves		
行程阀 - Stroke end valves: FC	60 - 15.9	300 - 4350
卸荷阀 - Unloader valves: VDA	100 - 26.4	350 - 5100
再生阀 - Regenerative valves: VRCL	150 - 39.6	350 - 5100
双泵“高低压”卸荷阀 - Two pumps "hi-low" unloading valves: VEP	250 - 66	350 - 5100
自动换向阀 - Automatic reversing valves: SD-VIA	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)	N 高达 - up to
SDE030	30 - 8	250 - 3600	9
SDE060	60 高达 - up to 16	315 - 4600	9
SDX060	80 高达 - up to 21	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)	N1 高达 - up to
整体阀 - Monoblock valves				
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
片式阀 - Sectional valves				
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

手柄头 - 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	-
S+ series	2	5	-
V series	-	1	-
J series	-	1	-
10 series	-	1	-



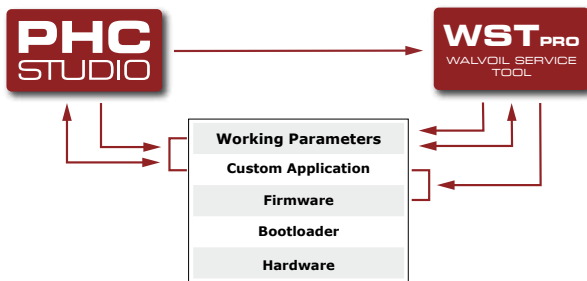
电控单元 - Electronic control units



类型 - Type	接口 Interface	输入* - Inputs*	输出* - Outputs*
CED252	RS232, 9600, 8, n, 1	A= 11 高达 - up to 11 D= 1	P= 5 / N= 5
	CANopen - SAEJ1939 - ISObus		
CED040	CANopen - SAEJ1939	A= 3 / D= 6	N= 4
CED160	CANopen - SAEJ1939	A= 3 / D= 6	P= 1 一对 - 1 pair N= 6
CED400W	RS232, 9600, 8, n, 1	A= 4 高达 - up to 4 D= 6 高达 - up to 6	P= 12
	CANopen - SAEJ1939		
PVD200	RS232, 9600, 8, n, 1	A= 4 高达 - up to 4	P= 2 成对 - 2 pairs
	CANopen - SAEJ1939		
CED1200S	RS232, 9600, 8, n, 1	A= 32 高达 - up to 32 D= 12 高达 - up to 12	P= 48
	CANopen - SAEJ1939		
	Ethernet BroadR-Reach, LIN		

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 SUITE - PHC STUDIO SUITE



PHC STUDIO SUITE 包括最新版本的 PHC STUDIO (3.0) 和新的 WST pro (高级 Walvoil 服务工具)。
通过一次安装, 现在可以管理所有 Walvoil 开发工具。

PHC STUDIO 是一个集成开发环境 (IDE)。得益于 IEC 61131-3 标准的 5 种编程语言, 它可以在 Walvoil 电子控制单元中开发和整合客户定制化应用逻辑程序, 在最新版本 (3.0) 中, 新功能包括:

- 与 WST pro 集成
- 在基础库中添加功能
- 小补丁修正

这款新 WST pro 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)。

通过 WST pro 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
- 创建自定义图形界面

PHC STUDIO SUITE includes the latest release of PHC STUDIO (3.0) and the new WST pro (Advanced Walvoil Service Tool).

Through a single installation it's now possible to manage all Walvoil development tools.

PHC STUDIO is an integrated development environment (IDE). It develops and integrates customized application logics in Walvoil electronic control units thanks to the 5 programming languages of the IEC 61131-3 standard. In the latest version (3.0) the new features are:

- Integration with WST pro
- Addition of functions within the base libraries
- Minor Bugfixes.

The new WST pro can be connected to all Walvoil electronic components and it integrates the most used service tools (bootloader, configurator, diagnostics) in a single environment.

Through WST pro it is possible to:

- Calibrate and configure the applications
- Monitor I/O signals in Real Time
- Execute in-field system Diagnostic
- Update the Firmware and Software in the field
- Create a customized graphic interface

沃而福在全球 - *Walvoil worldwide*

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 . info@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 . www.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 . www.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 0614 24000
info@walvoil.co.in . www.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@walvoilusa.com .
www.walvoilusa.com

Walvoil Fluid Power Corp. Hydrocontrol Business Unit
1109, Technology Drive . Red Wing . MN 55066 . U.S.A.
TEL. +1 651 212 6400 . info@walvoilusa.com .
www.walvoilusa.com

 | 沃而福
FLUID POWER DIVISION



www.walvoil.com



Innovation · Continuity · Integration
It is Power

5th edition September 2022
D1WWA003CE

