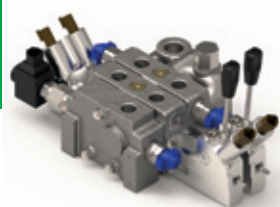
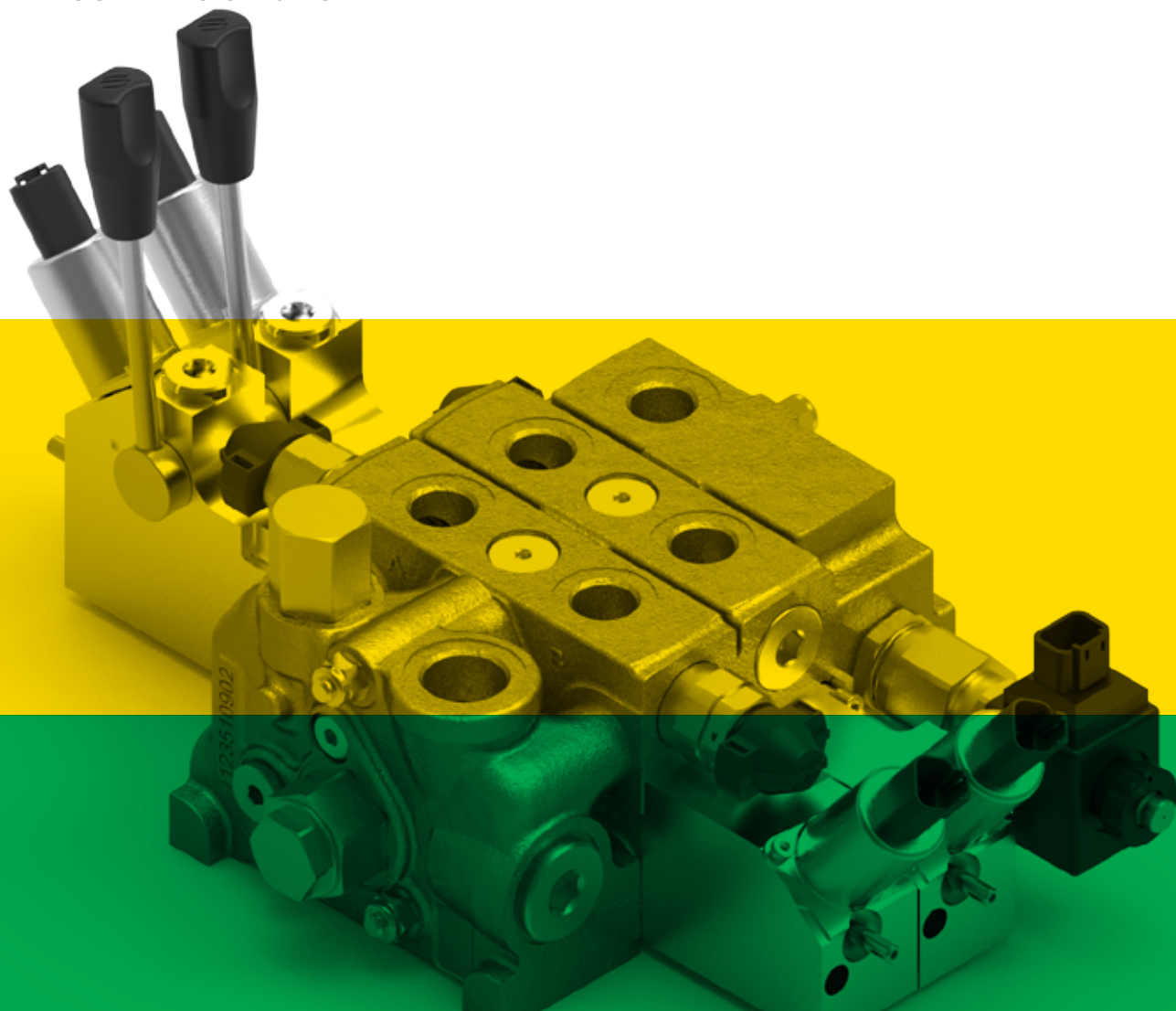


# VD8 Series

## Directional Control Valve

### Technical Brochure

E0.255.0226.11.00IM01



**VD8Z**  
sectional control valve  
with electro-hydraulic  
proportional control



**VD8LS**  
load sensing sectional  
control valve



**VD8ZLS**  
load sensing sectional control  
valve and electro-hydraulic  
proportional control



COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV  
ISO 9001



**Final revised edition** - February 2026

Information and data in this catalogue are all referring to the standard product.  
Salami's policy consists of a continuous product development; therefore, we reserve the rights to change product's specifications and data performances at any time and without any prior notice.

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VD8ZLS .....	22



### Technical Data

Nominal Flow	Qn	75 l/min - (20 gpm US)
Max Flow	Q	90 l/min - (24 gpm US)
Max Pressure	port P	350 bar - (5070 psi)
	ports A/B	350 bar - (5070 psi)
	port T	25 bar - (360 psi)
	Drain port Tp	5 bar - (70 psi)
Spool Stroke (Positions 1 And 2)	± 7 mm - (0.28 in.)	
Number of sections	From 1 To 10	

### Main Features

- Sectional design
- Parallel, Serie and Tandem Circuit
- Electro – hydraulic proportional spool control
- High metering spools
- Manual lever dual command
- Remote pilot pressure port
- Solenoid unloading valve
- Back pressure valve
- Power Beyond HPCO
- Stackable with VD8A standard sections

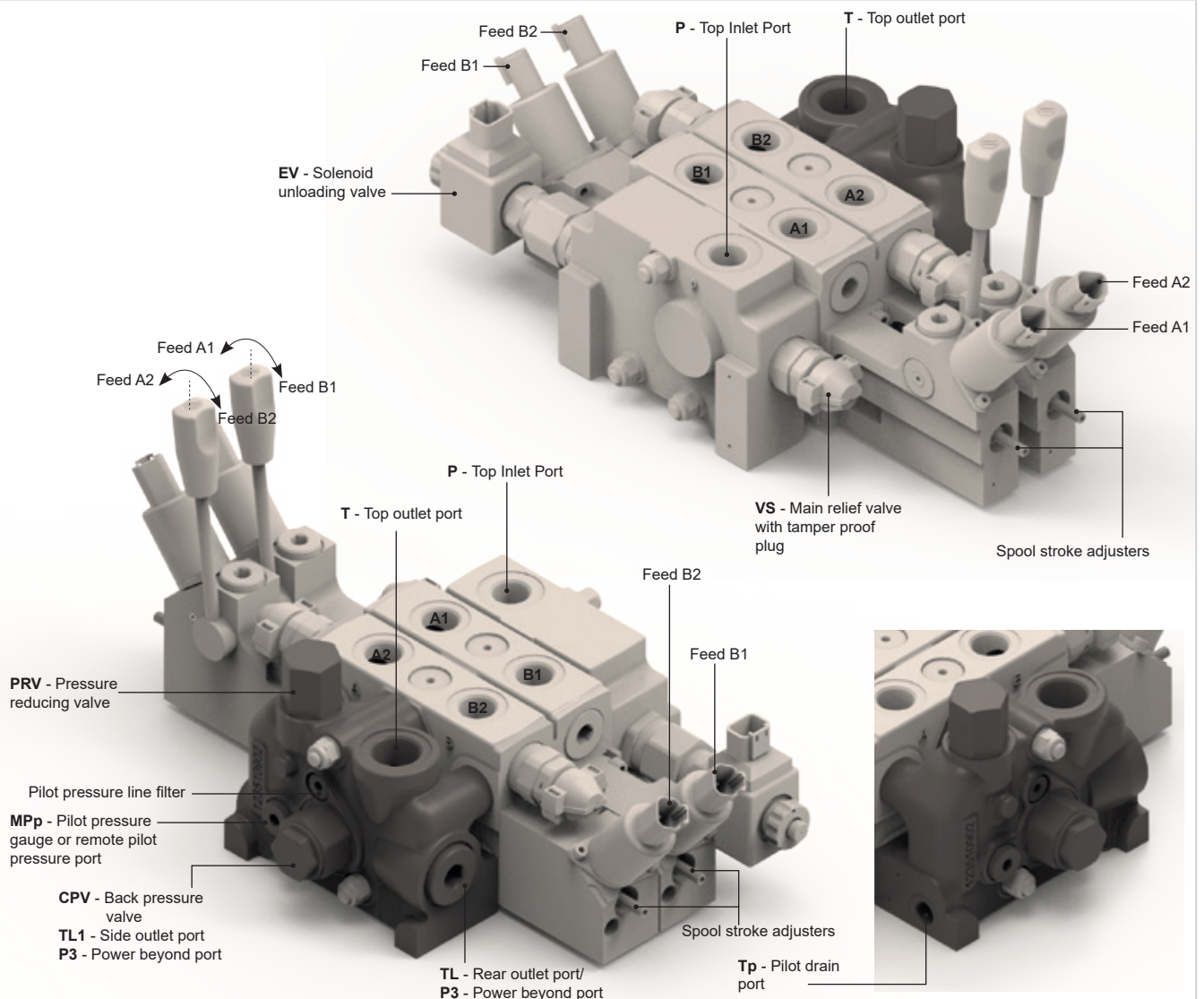
### Applications

- Lifting Equipment
- Towing Trucks, Hydro-Excavation Trucks
- Garbage Compactors
- Agriculture Equipment
- Radio remote mobile equipment
- Material handling



### VD8Z vs VD8A

FEATURES	VD8Z	VD8A
INLET ELEMENT	VD8A standard	Standard
NEW OUTLET ELEMENT	Pressure reducing valve, pilot pressure remote port, drain port, back pressure valve CPV, power beyond HPCO	Standard
WORKING SECTIONS	Crossing pilot lines	Standard w/o pilot lines
STACKABLE WITH VD8A	Sections must be stacked before the outlet element and downstream the VD8A sections	Sections must be stacked upstream VD8Z sections
ELECTRO-HYDRAULIC PROPORTIONAL AND ON-OFF CONTROL	Fully integrated, no need of external pilot lines	H1/H2 control only ON/OFF with external pilot lines
EXTERNAL FEEDING FOR HYDRAULIC JOYSTICK	Pilot pressure remote port (MPp) used to feed hydraulic pilot joysticks	NA
METERING	High metering spools	Standard and high metering spools
BACK PRESSURE VALVE (CPV)	Standard	Standard for H1/H2 control
WITHOUT BACK PRESSURE VALVE (CPV)	In case of HPCO and/or 8 bar guaranteed in the return line in all working conditions	



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### Port Size and Thread

		P	PL	Tp	MPp	A/B	T	TL	TL1	P3
BSP (UNI ISO 1179 - THREADS UNI ISO 228/1)	G1/4			X	X					
	G1/2	X	X			X				X
	G3/4						X	X	X	
SAE UN-UNF (UNI ISO 11926 - THREADS UNI ISO 725)	SAE4 (7/16-20 UNF)			X	X					
	SAE10 (7/8-14 UNF)	X	X			X				X
	SAE12 (1-1/16 -12 UN)						X	X	X	

### Valves

INLET ELEMENT VALVES		WORKING SECTION VALVES		OUTLET ELEMENT VALVE	
Main pressure relief valve	VS	Antishock valve	VA	Back pressure valve	CPV
Solenoid unloading valve	EV1/EV2/EV3/EV4	Antishock and anticavitation valve	AR	Pressure reducing valve	PRV
Hydraulic unloading valve	EHV	Anticavitation valve	VR		
		Single/double acting conversion valve	CV		

### Proportional Pressure Control Valve

#### ELECTRICAL DATA

	KE1JA/KE1DT	KE2JA/KE2DT	ON-OFF	
VOLTAGE	12V	24V	12V	24V
MIN CURRENT	792mA	396mA	-	-
MAX CURRENT	1364mA	650mA	1400mA	700mA
RESISTANCE	4.72 Ω +/-5%	20.8 Ω +/-5%	4.72 Ω +/-5%	20.8 Ω +/-5%
PWM FREQUENCY	100HZ	100HZ	DIRECT CURRENT	DIRECT CURRENT
SUPER IMPOSED DITHER FREQUENCY	100HZ (AMPLITUDE 200mA)	100HZ (AMPLITUDE 100mA)	-	-
CONNECTOR	AMP JUNIOR TIMER (JA)			
	DEUTSCH DT04-2P (DT)			
PROTECTION CLASS	IP6K6			

#### HYDRAULIC DATA

MAX VOLUME FLOW @ 6bar ΔP	2.5-5 l/min
MAX PRESSURE FROM PRV	35bar
MAX WORKING PRESSURE	25bar
MAX TANK SIDE PRESSURE	5bar
INTERNAL LEAKAGE @ 35bar 32cSt	< 0.06 l/min (DE-ENERGIZED) <0.15 l/min (ENERGIZED)
CONTAMINATION LEVEL	MIN FILTRATION: 20/18/15 ACCORDING TO ISO 4406
FILTERSCREEN SIZE	200 μm

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**Inlet and Outlet Element Matching Configurations**

**INLET ELEMENT CONFIGURATIONS**

	P	PL	T	TL	G	EV1/2/3/4	EHV	
<b>01</b>	OPEN	NA	NA	NA	NA	AV	AV	
<b>02</b>	PLUGGED	OPEN	NA	NA	NA	AV	AV	
<b>03</b>	OPEN	OPEN	NA	NA	NA	AV	AV	
<b>21</b>	OPEN	NA	NA	NA	TOP OPEN	AV	AV	
<b>22</b>	PLUGGED	OPEN	NA	NA	TOP OPEN	AV	AV	
<b>23</b>	OPEN	OPEN	NA	NA	TOP OPEN	AV	AV	
<b>07</b>	OPEN	PLUGGED	OPEN	PLUGGED	NA	NA	NA	
<b>08</b>	PLUGGED	OPEN	PLUGGED	OPEN	NA	NA	NA	
<b>27</b>	OPEN	NA	OPEN	PLUGGED	SIDE OPEN	NA	NA	
<b>28</b>	NA	OPEN	PLUGGED	OPEN	TOP OPEN	NA	NA	

**OUTLET ELEMENT CONFIGURATIONS**

		PRV	CPV	P3 (HPCO)	MPp	TP	T	TL	TL1	NOTES
<b>STANDARD CONFIGURATIONS FOR Z AND Z + IP</b>	<b>U36</b>	YES	NO	NO	PLUGGED	OPEN	OPEN	PLUGGED	PLUGGED	Min 8bar in the T line
	<b>U37</b>	YES	NO	NO	PLUGGED	OPEN	PLUGGED	OPEN	PLUGGED	Min 8bar in the T line
	<b>U38</b>	YES	NO	NO	PLUGGED	OPEN	PLUGGED	PLUGGED	OPEN	Min 8bar in the T line
	<b>U39</b>	YES	NO	NO	PLUGGED	OPEN	PLUGGED	PLUGGED	PLUGGED	Port T in the inlet element
	<b>U19</b>	YES	YES	NO	PLUGGED	OPEN	OPEN	PLUGGED	NA	
	<b>U20</b>	YES	YES	NO	PLUGGED	OPEN	PLUGGED	OPEN	NA	
	<b>U26</b>	YES	YES	NO	PLUGGED	OPEN	PLUGGED	PLUGGED	NA	Port T in the inlet element
	<b>U27</b>	YES	NO	YES	PLUGGED	OPEN	OPEN	PLUGGED	NA	
	<b>U28</b>	YES	NO	YES	PLUGGED	OPEN	PLUGGED	OPEN	NA	
	<b>U32</b>	YES	NO	YES	PLUGGED	OPEN	PLUGGED	PLUGGED	NA	Port T in the inlet element
	<b>U33</b>	YES	NO	PLUGGED	PLUGGED	OPEN	OPEN	PLUGGED	NA	
	<b>U34</b>	YES	NO	PLUGGED	PLUGGED	OPEN	PLUGGED	OPEN	NA	
<b>U35</b>	YES	NO	PLUGGED	PLUGGED	OPEN	PLUGGED	PLUGGED	NA	Port T in the inlet element	

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## Inlet and Outlet Element Matching Configurations

### OUTLET ELEMENT CONFIGURATIONS

		PRV	CPV	P3 (HPCO)	MPp	Tp	T	TL	TL1	NOTES
STANDARD CONFIGURATIONS FOR IP	U40	YES	NO	NO	OPEN	PLUGGED	OPEN	PLUGGED	PLUGGED	
	U41	YES	NO	NO	OPEN	PLUGGED	PLUGGED	OPEN	PLUGGED	
	U42	YES	NO	NO	OPEN	PLUGGED	PLUGGED	PLUGGED	OPEN	
	U43	YES	NO	NO	OPEN	PLUGGED	PLUGGED	PLUGGED	PLUGGED	Port T in the inlet element
	U44	YES	NO	YES	OPEN	PLUGGED	OPEN	PLUGGED	NA	
	U45	YES	NO	YES	OPEN	PLUGGED	PLUGGED	OPEN	NA	
	U46	YES	NO	YES	OPEN	PLUGGED	PLUGGED	PLUGGED	NA	Port T in the inlet element
	U47	YES	NO	PLUGGED	OPEN	PLUGGED	OPEN	PLUGGED	NA	
	U48	YES	NO	PLUGGED	OPEN	PLUGGED	PLUGGED	OPEN	NA	
	U49	YES	NO	PLUGGED	OPEN	PLUGGED	PLUGGED	PLUGGED	NA	Port T in the inlet element



**Inlet and Outlet Element Matching Configurations**

**MATCHING CONFIGURATIONS**

	01	02	03	07	08	21	22	23	27	28
U36	X	X	X			X	X	X		
U37	X	X	X			X	X	X		
U38	X	X	X			X	X	X		
U39				X	X				X	X
U19	X	X	X			X	X	X		
U20	X	X	X			X	X	X		
U26				X	X				X	X
U27	X	X	X			X	X	X		
U28	X	X	X			X	X	X		
U32				X	X				X	X
U33	X	X	X			X	X	X		
U34	X	X	X			X	X	X		
U35				X	X				X	X

**MATCHING CONFIGURATIONS**

	01	02	03	07	08	21	22	23	27	28
U40	X	X	X			X	X	X		
U41	X	X	X			X	X	X		
U42	X	X	X			X	X	X		
U43				X	X				X	X
U44	X	X	X			X	X	X		
U45	X	X	X			X	X	X		
U46				X	X				X	X
U47	X	X	X			X	X	X		
U48	X	X	X			X	X	X		
U49				X	X				X	X

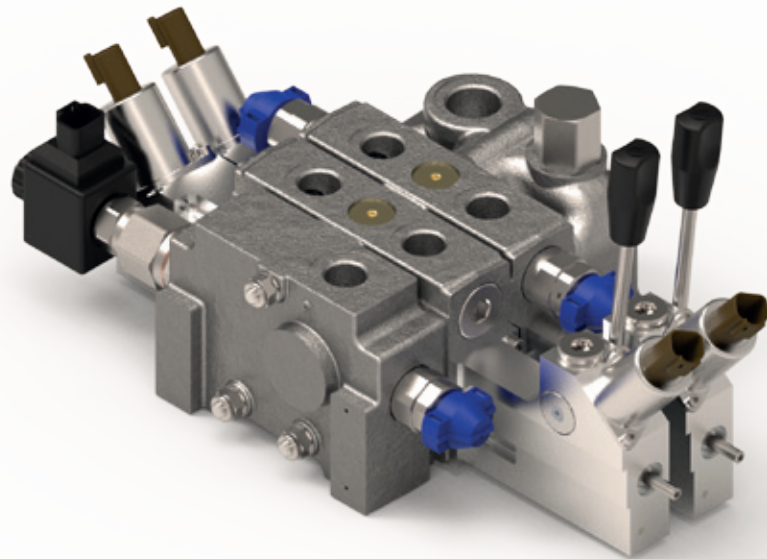
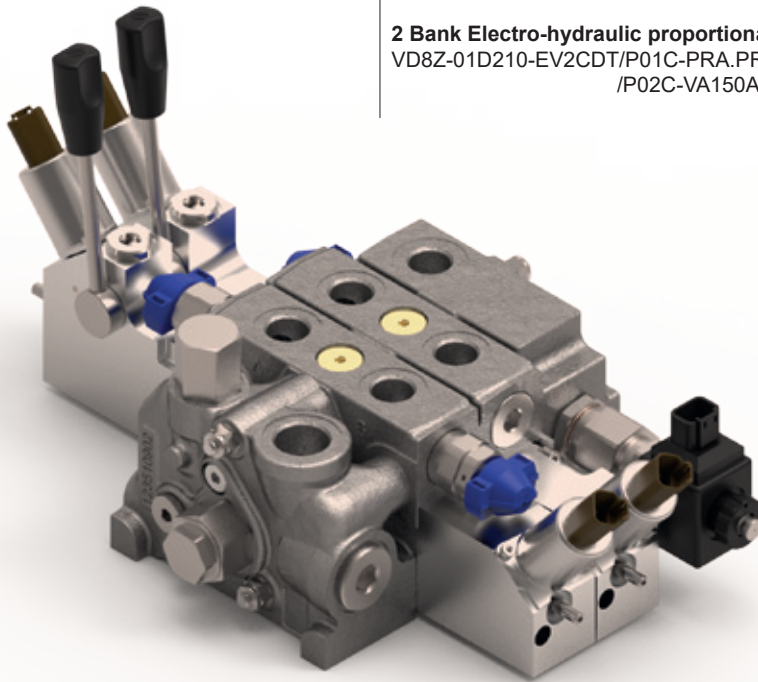
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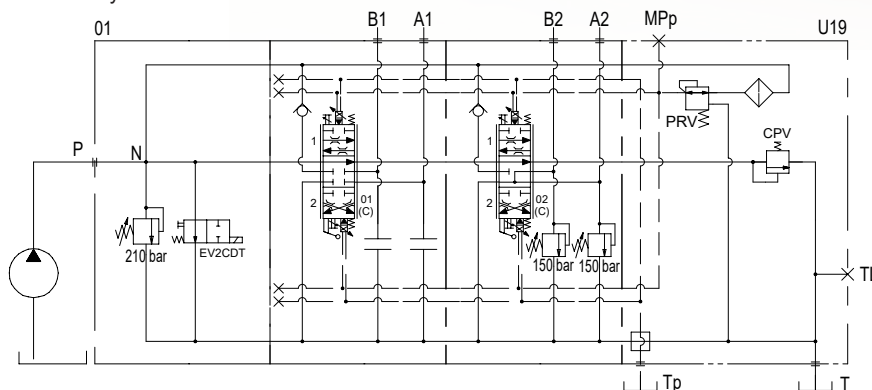
## VD8Z Configurations

Example 1

**2 Bank Electro-hydraulic proportional controlled sections (24V)**  
 VD8Z-01D210-EV2CDT/P01C-PRA.PRB-LKEA-KE2DT/  
 /P02C-VA150A.VA150B-LKEA-KE2DT/U19G



Hydraulic Circuit



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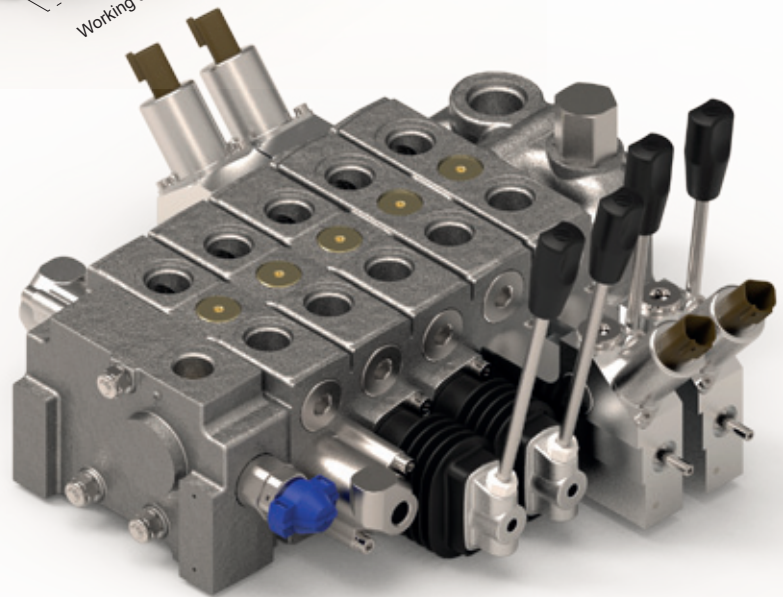
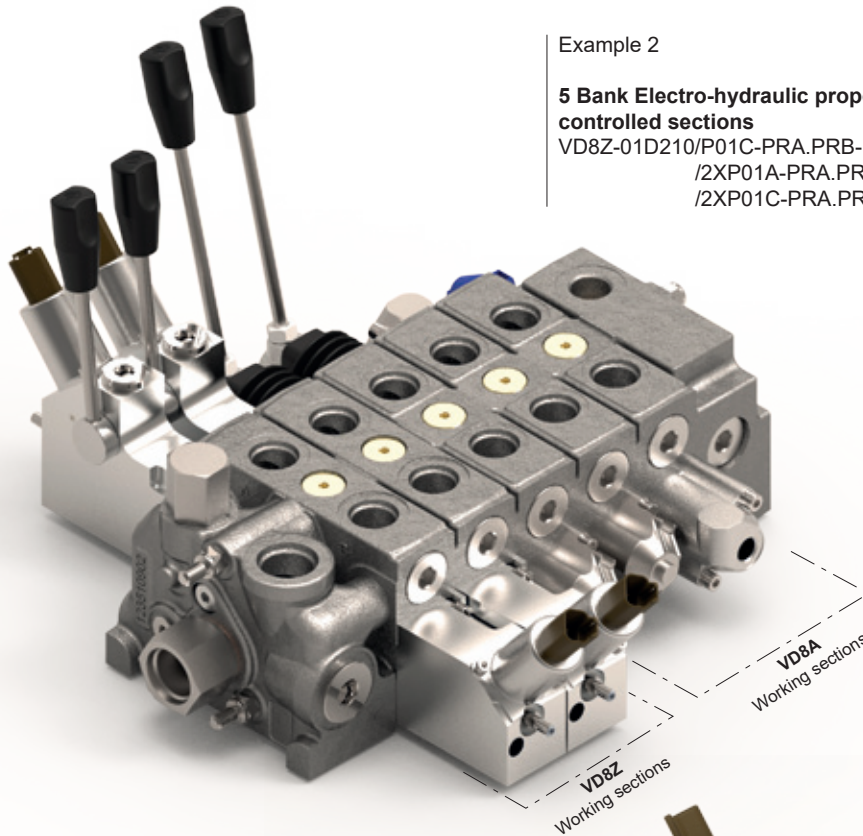


### VD8Z Configurations

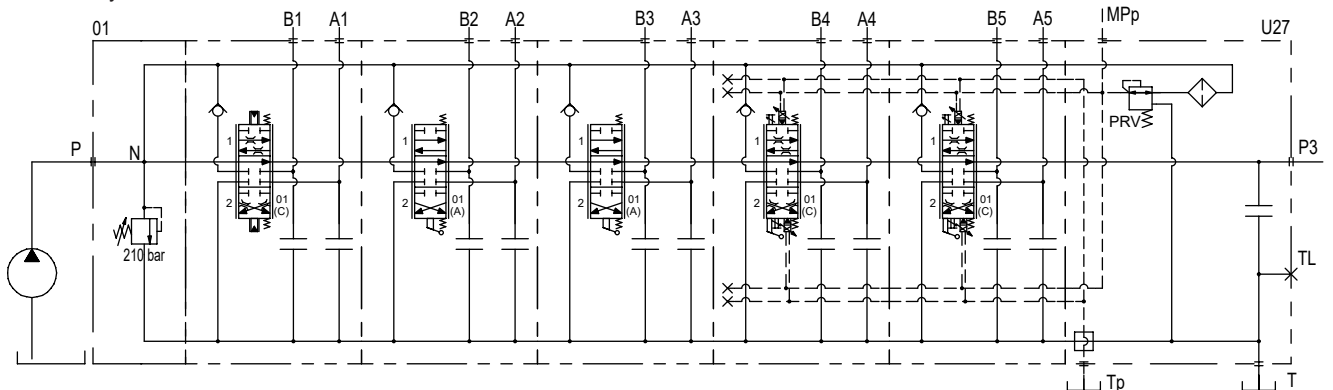
Example 2

**5 Bank Electro-hydraulic proportional (24), manual and hydraulic controlled sections**

VD8Z-01D210/P01C-PRA.PRB-IP/  
/2XP01A-PRA.PRB-NLA-C2/  
/2XP01C-PRA.PRB-LKEA-KE2DT/U27S



Hydraulic Circuit

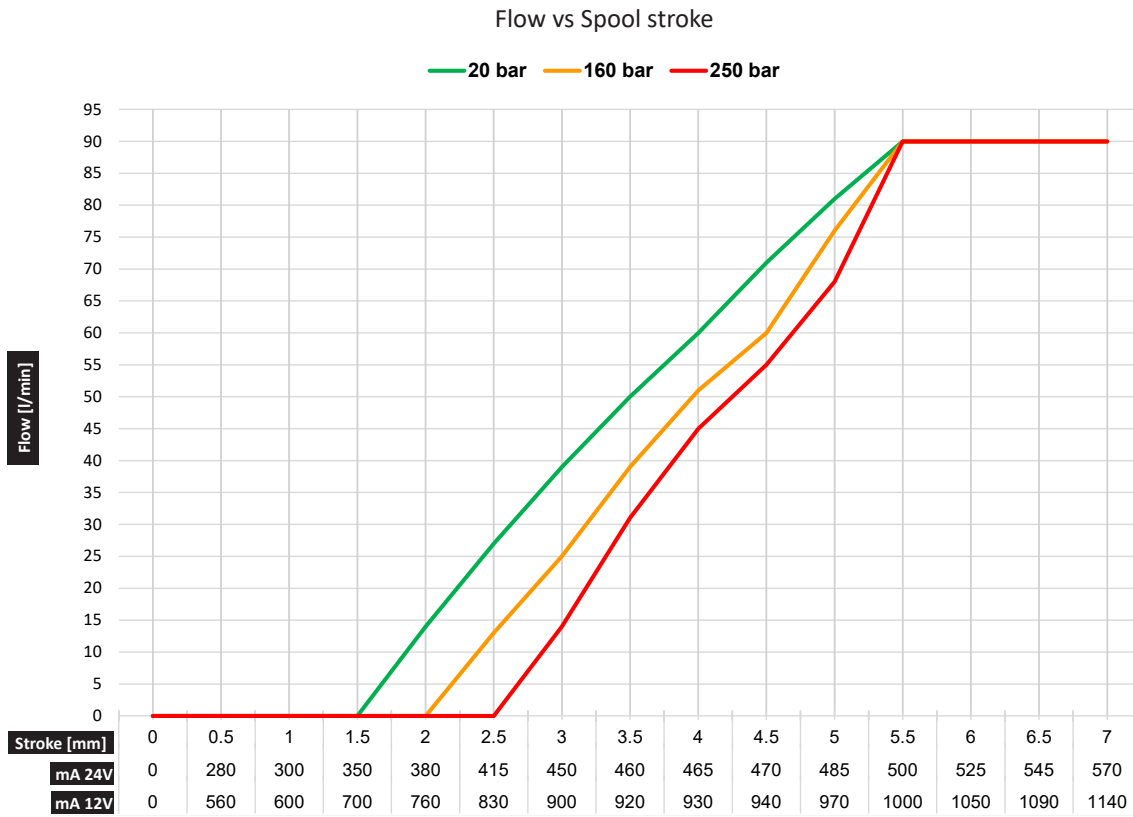


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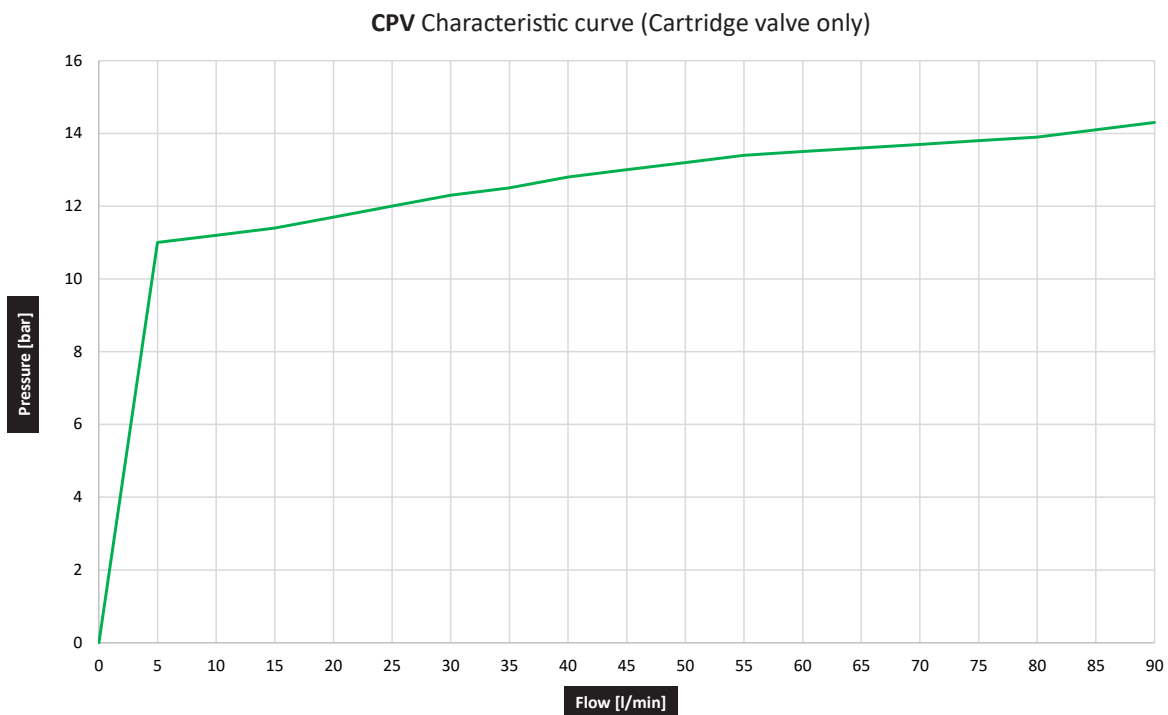
## Metering Curves

Oil ISO VG32 at 21 cSt



## Counter Pressure Valve Data

Oil ISO VG32 at 21 cSt



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► For any other options see **VD8A** Technical Catalogue (E0.06.0911.02.02)

<b>VD8Z</b>	01	D	210	-	EV2CDT	/	2	X	P	01C	-	VA	150	A	.	VA	150	B	-	LKE	A	-	KE	2	DT	/	U19	G
	A	B	C		D		E	F	G			H		I		H		I		L	M		N	O	P		Q	R

A INLET ELEMENT	
	01-02-03-21-22-23-07-08-27-28

B MAIN RELIEF VALVE	
D	Direct main relief valve
P	Piloted main relief valve
W	Without main relief valve

C MAIN RELIEF VALVE SETTINGS	
	From 20 to 300 bar (290 to 4350 psi)

SOLENOID UNLOADING VALVE	
	EV1-EV2-EV3-EV4

D HYDRAULIC UNLOADING VALVE	
	EHV

E NUMBER OF IDENTICAL CONSECUTIVE SECTIONS	
--	--

F WORKING SECTIONS	
P	Parallel circuit
S	Series circuit
T	Tandem circuit

G SPOOL TYPES	
01C	Double acting spool for hydraulic control High metering
02C	Double acting motor spool for hydraulic control High metering
03C	Double acting motor spool ("B" port blocked) for hydraulic control - High metering
04C	Double acting motor spool ("A" port blocked) for hydraulic control - High metering

H AUXILIARY VALVES	
VA	Antishock valve
AR	Antishock and Anticavitation valve
VR	Anticavitation valve
CV	Single/double acting conversion valve

R PORTS	
G	GAS - BSP Threaded (ISO 228)
S	SAE UN - UNF Threaded (ISO 725)

Q OUTLET ELEMENT	
(STANDARD CONFIGURATIONS FOR Z AND Z + IP) U36-U37-U38-U39-U19-U20-U26 U27-U28-U32-U33-U34-U35	
(STANDARD CONFIGURATIONS FOR IP) U40-U41-U42-U43-U44 U45-U46-U47-U48-U49	

P CONNECTOR TYPE	
JA	AMP JUNIOR TIMER
DT	DEUTSCH DT04-2P

O ELECTRO-HYDRAULIC MODULES VOLTAGE	
1	12V
2	24V

N SPOOL POSITIONINGS	
KE	Electro-hydraulic proportional with stroke adjuster

M CONTROL SIDE	
A	A port side
B	B port side

L SPOOLS CONTROLS	
LKE	Electro - hydraulic proportional with lever and stroke adjuster
SKE	Electro - hydraulic proportional and stroke adjuster

I PORT ON WHICH THE VALVE IS MOUNTED	
--------------------------------------	--

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### Technical Data

Max Flow	Q	90 l/min - (24 gpm US)
Max Pressure	LS Main Relief bar	320 bar - (4600 psi)
	port P	350 bar - (5070 psi)
	ports A/B	350 bar - (5070 psi)
	port T	25 bar - (360 psi)
Spool Stroke (Positions 1 And 2)	± 7 mm - (0.28 in.)	
Number of sections	From 1 To 8	

### Main Features

- Sectional design
- Parallel Circuit
- LS main relief valve and pump flow main relief valve
- Solenoid unloading valve
- High metering double acting cylinder and motor spools
- Spool Control: manual, manual joystick, cable remote, hydraulic piloted, pneumatic piloted.
- Spool positioning: spring centred, detent, friction detent

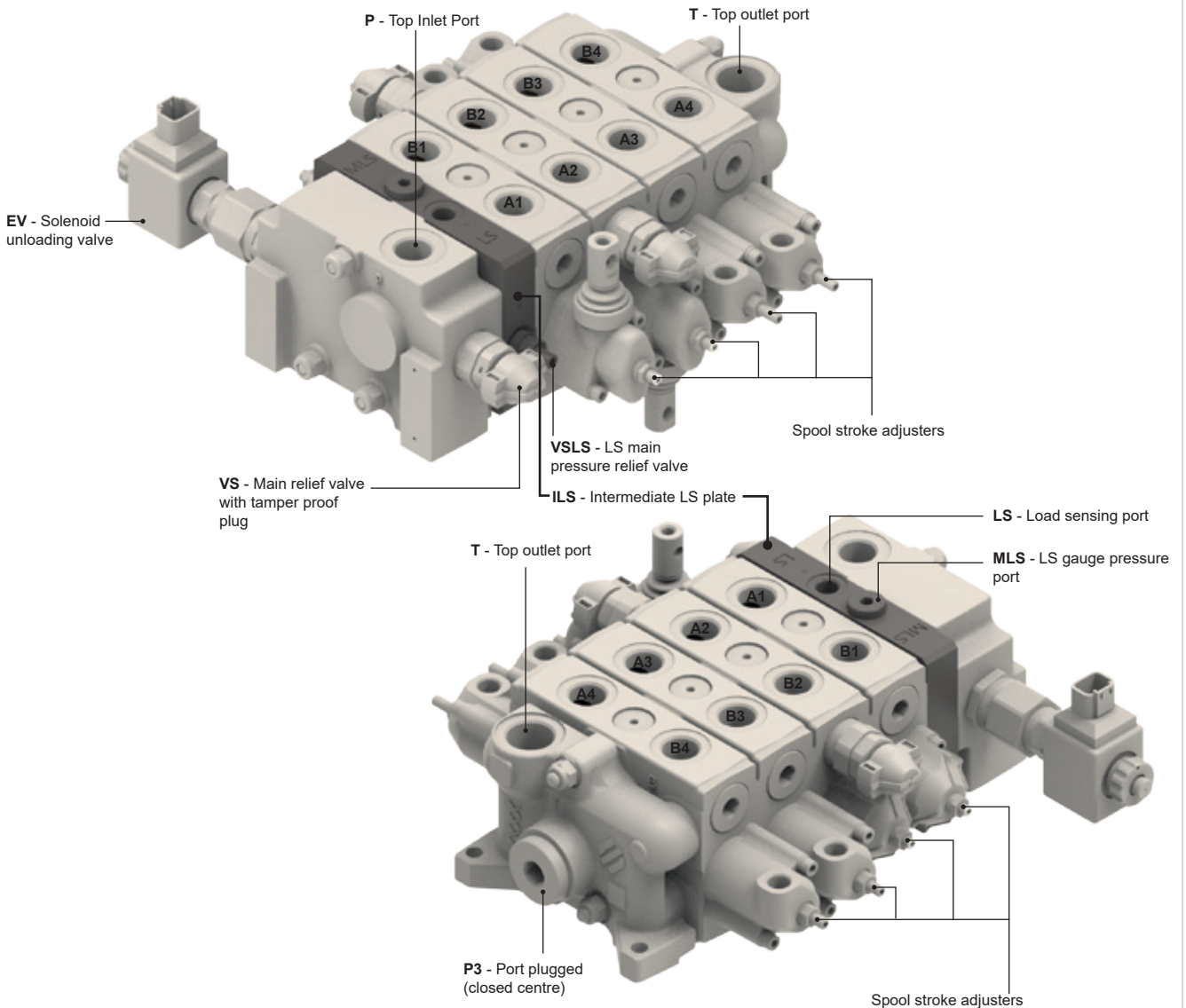
### Applications

- Lifting Equipment
- Earth Moving Machinery
- Drill Rigs
- Agriculture Equipment
- Material handling



### VD8LS vs VD8A

FEATURES	VD8LS	VD8A
INLET ELEMENT	VD8A standard	Standard
INTERMEDIATE LS PLATE	LS main relief valve, LS port	NA
OUTLET ELEMENT	VD8A standard	Standard U7
WORKING SECTIONS	Spool with shuttle valve and LS crossing line	Standard
SPOOL FLOW	70-95 l/min @ 14 - 26bar pump stand-by pressure	Standard & High metering
	55-75 l/min @ 14 - 26bar pump stand-by pressure	
	40-60 l/min @ 14-26bar pump stand-by pressure	
STACKABLE WITH VD8A	NA	-
SPOOL CONTROL	NL,NP, SL, TC, L1/L2, IP, PP, P1/P2	See VD8A catalogue
SPOOL POSITIONING	C2, C3, R2, R4, R5, C0	See VD8A catalogue
METERING	HIGH METERING SPOOLS	STANDARD AND HIGH METERING SPOOLS



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## Port Size and Thread

		P	PL	LS	MLS	A/B	T	TL
BSP (UNI ISO 1179 - THREADS UNI ISO 228/1)	G1/4			X	X			
	G1/2	X	X			X		
	G3/4						X	X
SAE UN-UNF (UNI ISO 11926 - THREADS UNI ISO 725)	SAE4 (7/16-20 UNF)			X	X			
	SAE10 (7/8-14 UNF)	X	X			X		
	SAE12 (1-1/16-12 UN)						X	X

## Valves

INLET ELEMENT VALVES		INTERMEDIATE PLATE VALVES		WORKING SECTION VALVES	
Main pressure relief valve	VS - Pressure setting 20-30 bar higher than VSLS pressure setting	LS main pressure relief valve	VSLS	Antishock valve	VA
Solenoid unloading valve	EV1/EV2/EV3/EV4			Antishock and Anticavitation valve	AR
Hydraulic unloading valve	EHV			Anticavitation valve	VR
				Single/double acting conversion valve	CV

## Inlet and Outlet Element Matching Configurations

INLET ELEMENT CONFIGURATIONS							
	P	PL	T	TL	G	EV1/EV2 EV3/EV4	EHV
01	OPEN	NA	NA	NA	NA	AV	AV
02	PLUGGED	OPEN	NA	NA	NA	AV	AV
03	OPEN	OPEN	NA	NA	NA	AV	AV
21	OPEN	NA	NA	NA	TOP OPEN	AV	AV
22	PLUGGED	OPEN	NA	NA	TOP OPEN	AV	AV
23	OPEN	OPEN	NA	NA	TOP OPEN	AV	AV
07	OPEN	PLUGGED	OPEN	PLUGGED	NA	NA	NA
08	PLUGGED	OPEN	PLUGGED	OPEN	NA	NA	NA
27	OPEN	NA	OPEN	PLUGGED	SIDE OPEN	NA	NA
28	NA	OPEN	PLUGGED	OPEN	TOP OPEN	NA	NA

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**Inlet and Outlet Element Matching Configurations****OUTLET ELEMENT CONFIGURATIONS**

	<b>T</b>	<b>TL2</b>	<b>P3</b>		
<b>U7</b>	OPEN	NA	PLUGGED - CLOSED CENTRE		

**INTERMEDIATE LS PLATE CONFIGURATIONS**

	<b>LS</b>	
<b>ILS</b>	OPEN	

**MATCHING CONFIGURATIONS**

	<b>01</b>	<b>02</b>	<b>03</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>07</b>	<b>08</b>	<b>27</b>	<b>28</b>
<b>U7</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

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# VD8LS

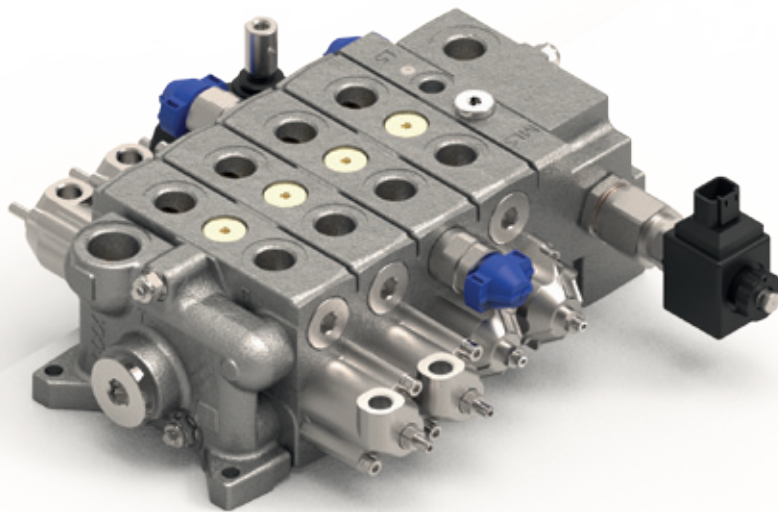
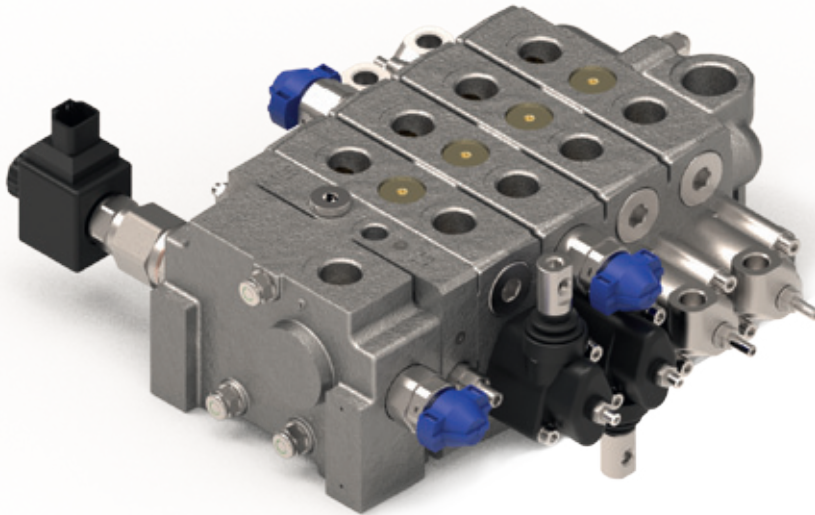
Closed Centre for variable displacement load sensing pump



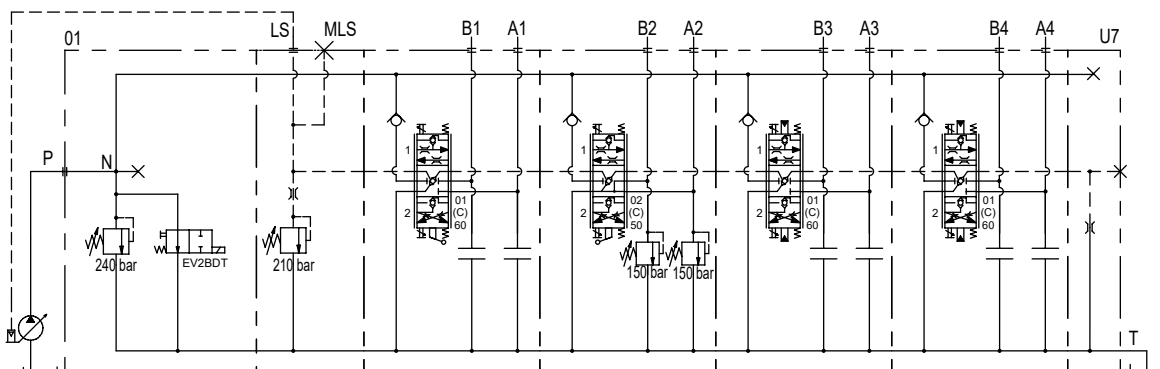
## VD8LS Configurations

Example

**4 Bank Manual and hydraulic pilot controlled sections**  
VD8LS-01D240-EV2BDT/ILS(210)/P01C60-PRA.PRB-NLEA-C2E/  
/P02C50-VA150A.VA150B-NLEA-C2E/  
/2XP01C60-PRA.PRB-IP1RE/U7G



Hydraulic Circuit

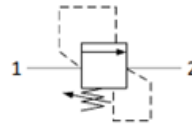




### LS Main Pressure Relief Valve - VSLs

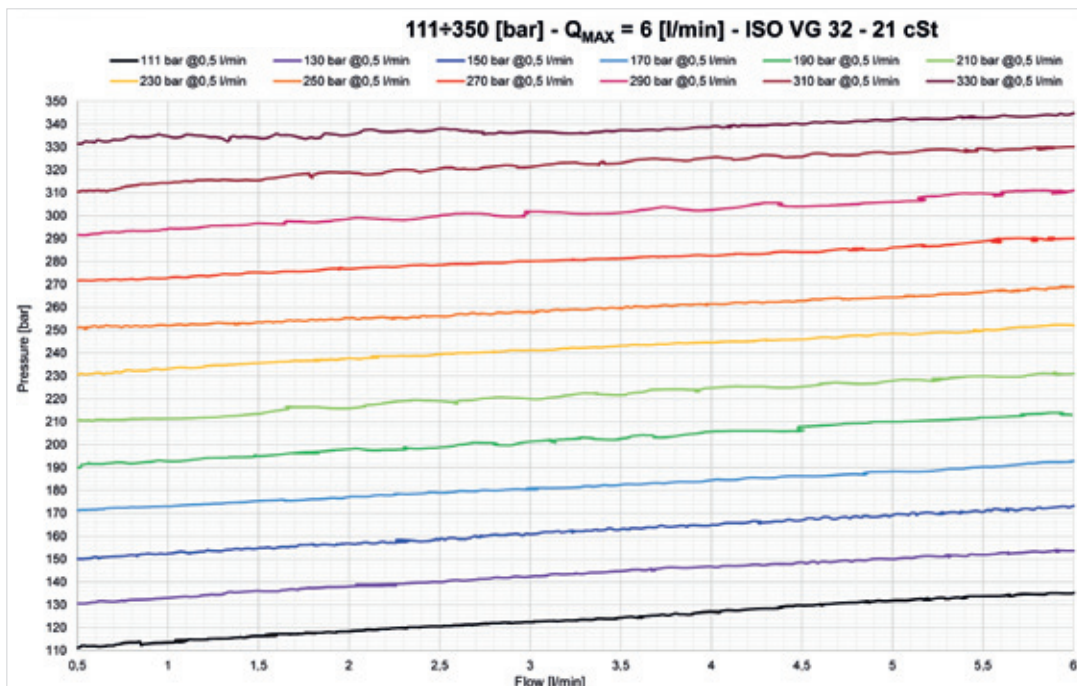
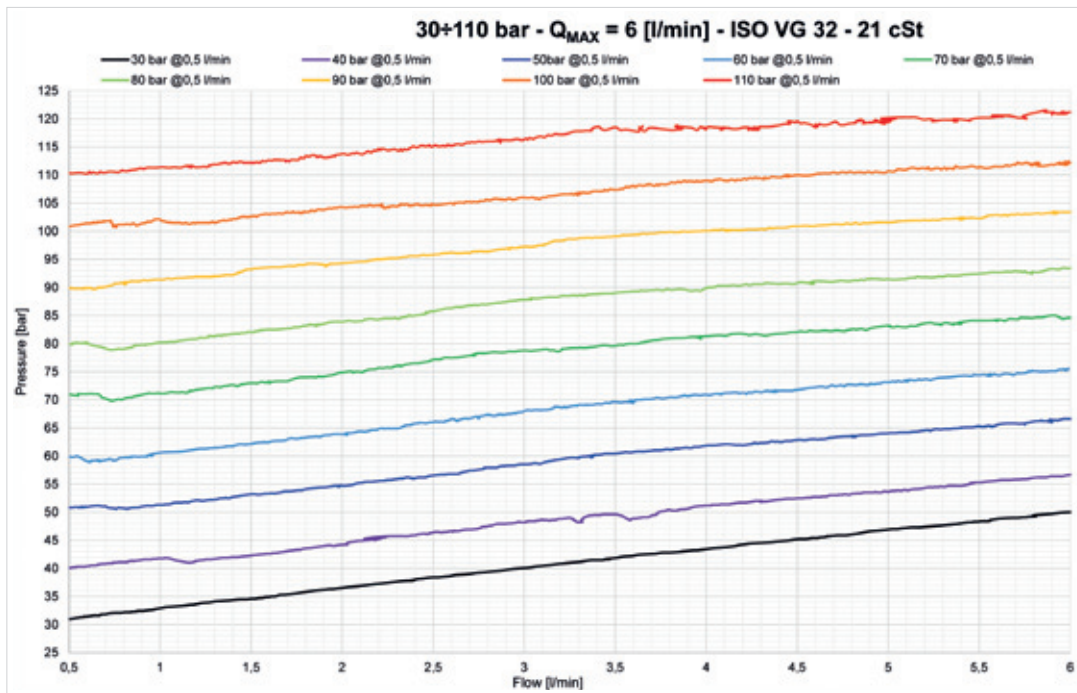


VSLs Tamper proof plug



<b>Q<sub>MAX</sub></b>
6l/min – 1.5GPM

<b>Pressure setting range</b>
30-110 bar
111-350 bar



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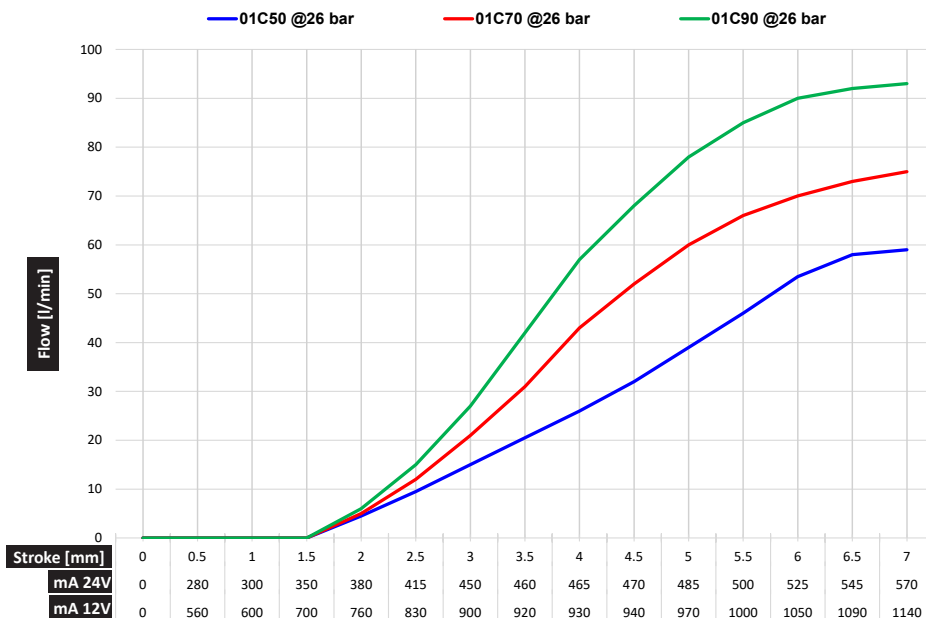
### Spools

TYPE	FLOW CONTROL
<b>01C90</b> - Double acting cylinder spool	70-95 l/min @ 14-26 bar pump stand-by pressure
<b>02C90</b> - Double acting motor spool	
<b>01C70</b> - Double acting cylinder spool	55-75 l/min @ 14-26 bar pump stand-by pressure
<b>02C70</b> - Double acting motor spool	
<b>01C50</b> - Double acting cylinder spool	40-60 l/min @ 14-26 bar pump stand-by pressure
<b>02C50</b> - Double acting motor spool	

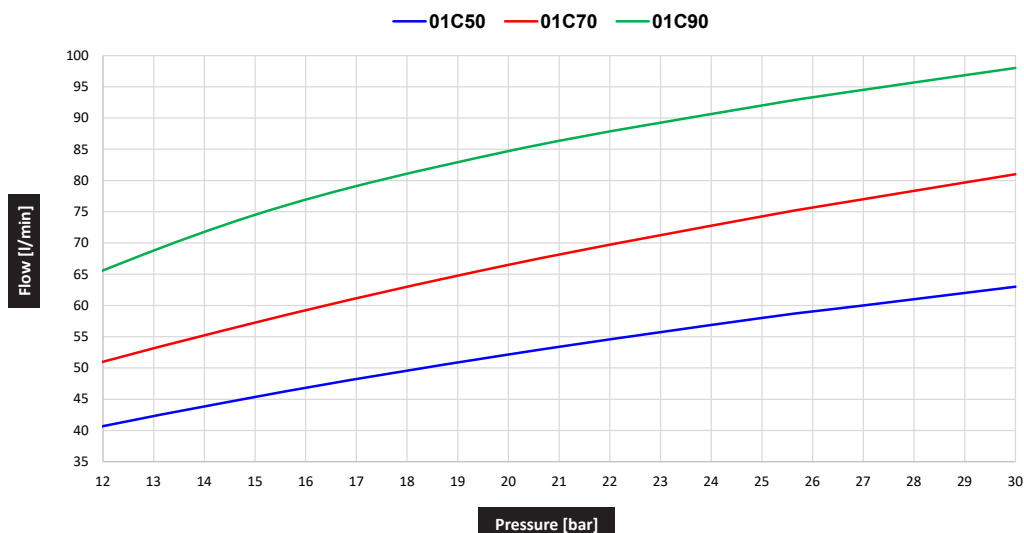
### Metering Curves

Oil ISO VG32 at 21 cSt

Flow vs Spool stroke at 26 bar stand by pump pressure



Spool Flow vs Pump Stand-by Pressure



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► For any other options see **VD8A** Technical Catalogue (E0.06.0911.02.02)

VD8LS	01	D	240	-	EV2CDT	/	ILS	210	/	4	X	P	01C	60	-	VA	150	A	.	VA	150	B	-	NPE	A	-	C2E	/	U7	G
	A	B	C		D		E	F		G	H		I			L		M		L		M		N	O		P		Q	R

A INLET ELEMENT	
	01-02-03-21-22-23-07-08-27-28

B MAIN RELIEF VALVE	
D	Direct main relief valve
P	Piloted main relief valve
W	Without main relief valve

C MAIN RELIEF VALVE SETTINGS	
	From 25 to 350 bar (360 to 5070 psi)

SOLENOID UNLOADING VALVE	
	EV1-EV2-EV3-EV4

D HYDRAULIC UNLOADING VALVE	
	EHV

E INTERMEDIATE LS PLATE	
	ILS

F VSLS SETTING	
	30-110 bar (435 to 1595 psi)
	111-350 bar (1600 to 5070 psi)

G NUMBER OF IDENTICAL CONSECUTIVE SECTIONS	
--	--

H WORKING SECTIONS	
P	Parallel circuit

I SPOOL TYPES	
01C	Double acting cylinder spool
02C	Double acting cylinder motor spool

I NOMINAL SPOOL FLOW	
50	40-60 l/min @ 14-26 bar pump stand-by pressure
70	55-75 l/min @ 14-26 bar pump stand-by pressure
90	70-95 l/min @ 14-26 bar pump stand-by pressure

L AUXILIARY VALVES	
VA	Antishock valve
AR	Antishock and Anticavitation valve
VR	Anticavitation valve
CV	Single/double acting conversion valve

R PORTS	
G	GAS - BSP Threaded (ISO 228)
S	SAE UN - UNF Threaded (ISO 725)

Q OUTLET ELEMENT	
	U7

P SPOOL POSITIONINGS	
C2E	Spring Centred Cap with Spool stroke adjusters
C0	Friction Detent
R2	Two position 1&2 detent with spring return to neutral
R4	Detent on position 1 with spring return to neutral
R5	Detent on position 2 with spring return to neutral

O CONTROL SIDE	
A	A port side
B	B port side

N SPOOLS CONTROLS	
SL	Spool End with wiper seal, w/o lever box
NPE	Manual lever box with Spool stroke adjusters
TC	Cable Control Connector Kit
PP	Pneumatic Pilot Control
IP1RE	Hydraulic Pilot Control with Spool stroke adjusters and top ports

M PORT ON WHICH THE VALVE IS MOUNTED	
--------------------------------------	--

E0.255.0226.11.001M01

# VD8ZLS

Electro-hydraulic proportional for variable displacement LS pump



## Technical Data

Max Flow	Q	90 l/min - (24 gpm US)
Max Pressure	LS Main Relief bar	320 bar - (4600 psi)
	port P	350 bar - (5070 psi)
	ports A/B	350 bar - (5070 psi)
	port T	25 bar - (360 psi)
	Drain port Tp	5 bar - (70 psi)
Spool Stroke (Positions 1 And 2)	± 7 mm - (0.28 in.)	
Number of sections	From 1 To 8	

## Main Features

- Sectional design
- Parallel Circuit
- LS main relief valve and pump flow main relief valve
- Electro – hydraulic proportional spool control
- High metering double acting cylinder and motor spools
- Solenoid unloading valve
- Spool Control: electro-hydraulic proportional and ON-OFF
- Manual lever dual command
- Spool stroke adjusterss
- Remote pilot pressure port
- Stackable with VD8LS sections

## Applications

- Lifting Equipment
- Towing Trucks, Garbage Compactors, Hydro-Excavation Trucks
- Drill Rigs
- Agriculture Equipment
- Material handling
- Radio remote mobile equipment

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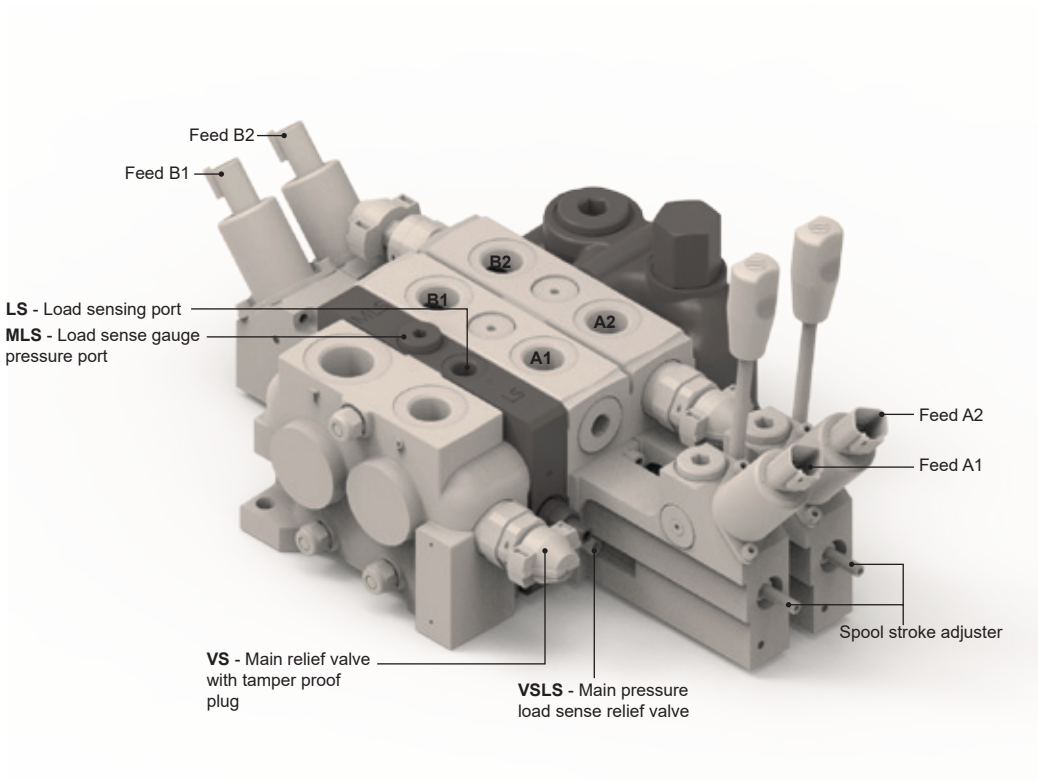
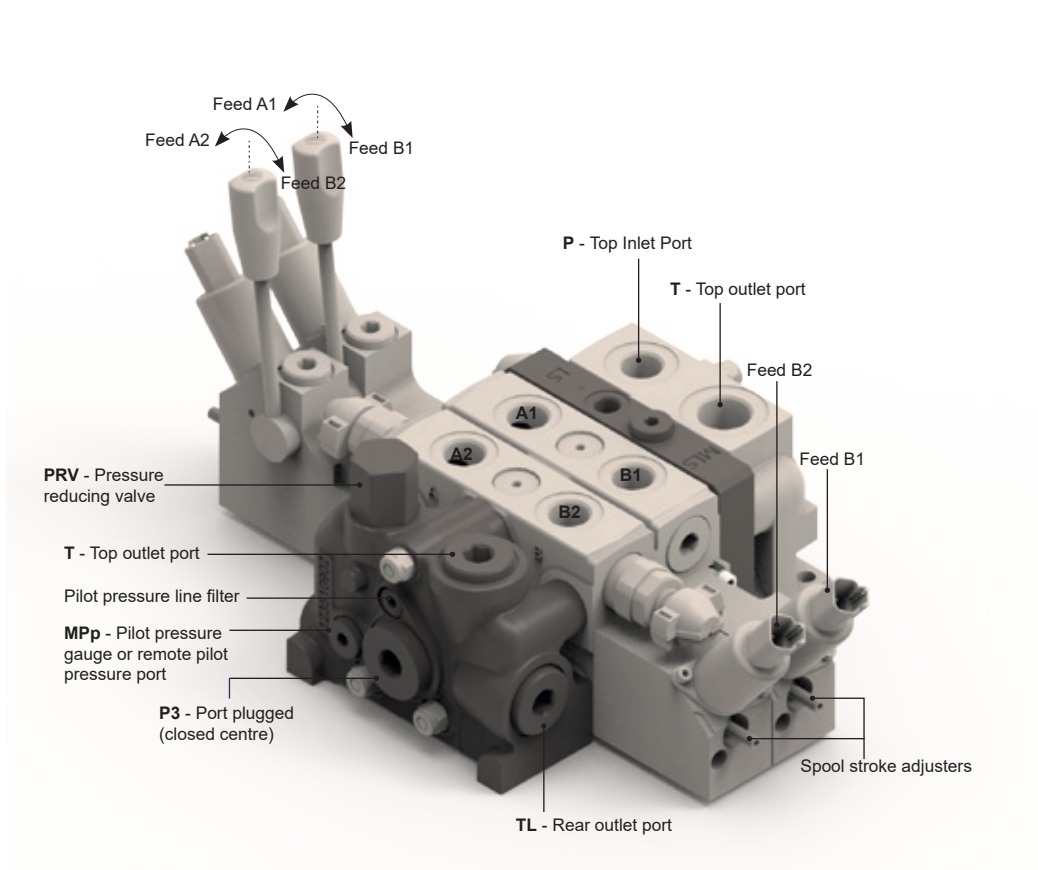


VD8ZLS vs VD8LS		
FEATURES	VD8ZLS	VD8LS
INLET ELEMENT	VD8A standard	
INTERMEDIATE LS PLATE	LS main relief valve, LS port, LS gauge port	LS main relief valve, LS port, LS gauge port
OUTLET ELEMENT	Pressure reducing valve, pilot pressure remote port, drain port, port plugged (closed centre)	Standard closed centre
WORKING SECTIONS	Spool with shuttle valve, LS crossing line, crossing pilot line	Spool with shuttle valve, LS crossing line
STACKABLE WITH VD8LS	Sections must be stacked before the outlet element and downstream the VD8LS sections	Sections must be stacked upstream VD8ZLS sections
ELECTRO-HYDRAULIC PROPORTIONAL AND ON-OFF CONTROL	Fully integrated, no need of external pilot lines	H1/H2 control - only ON/OFF with external pilot lines
EXTERNAL FEEDING FOR HYDRAULIC JOYSTICK	Pilot pressure remote port (MPp) used to feed hydraulic pilot joysticks	NA
SPOOL FLOW	70-95 l/min @ 14-26 bar pump stand-by pressure	
	55-75 l/min @ 14-26 bar pump stand-by pressure	
	40-60 l/min @ 14-26 bar pump stand-by pressure	
SPOOL CONTROL	SKE, LKE	NL, NP, SL, TC, L1/L2, IP, PP, P1/P2
SPOOL POSITIONING	KE1JA, KE2JA, KE1DT, KE2DT	C2, C3, R2, R4, R5, C0
STACKABLE WITH VD8A	NA	
OUTLET ELEMENT CONFIGURATION	Closed centre	

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## VD8ZLS Functional Description



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Port Size and Thread										
		P	PL	TP	MPp	A/B	LS	MLS	T	TL
BSP (UNI ISO 1179 - THREADS UNI ISO 228/1)	G1/4			X	X		X	X		
	G1/2	X	X			X				
	G3/4								X	X
SAE UN-UNF (UNI ISO 11926 - THREADS UNI ISO 725)	SAE4 (7/16-20 UNF)			X	X		X	X		
	SAE10 (7/8-14 UNF)	X	X			X				
	SAE12 (1-1/16 -12 UN)								X	X

Valves							
INLET ELEMENT VALVES		INTERMEDIATE PLATE VALVES		WORKING SECTION VALVES		OUTLET ELEMENT VALVES	
Main pressure relief valve	VS - Pressure setting 20-30 bar higher than VSLS pressure setting	LS main pressure relief valve	VSLS	Antishock valve	VA	Pressure reducing valve	PRV
Solenoid unloading valve	EV1/EV2/EV3/EV4			Antishock and Anticavitation valve	AR		
Hydraulic unloading valve	EHV			Anticavitation valve	VR		
				Single/double acting conversion valve	CV		

### Proportional Pressure Control Valve

ELECTRICAL DATA				
	KE1JA/KE1DT	KE2JA/KE2DT	ON-OFF	
VOLTAGE	12V	24V	12V	24V
MIN CURRENT	792mA	396mA	-	-
MAX CURRENT	1364mA	650mA	1400mA	700mA
RESISTANCE	4.72 Ω +/-5%	20.8 Ω +/-5%	4.72 Ω +/-5%	20.8 Ω +/-5%
PWM FREQUENCY	100HZ	100HZ	DIRECT CURRENT	DIRECT CURRENT
SUPER IMPOSED DITHER FREQUENCY	100HZ (AMPLITUDE 200mA)	100HZ (AMPLITUDE 100mA)	-	-
CONNECTOR	AMP JUNIOR TIMER (JA)			
	DEUTSCH DT04-2P (DT)			
PROTECTION CLASS	IP6K6			
HYDRAULIC DATA				
MAX VOLUME FLOW @ 6bar ΔP	2.5-5 l/min			
MAX PRESSURE FROM PRV	35bar			
MAX WORKING PRESSURE	25bar			
MAX TANK SIDE PRESSURE	5bar			
INTERNAL LEAKAGE @ 35bar 32cSt	< 0.06 l/min (DE-ENERGIZED) <0.15 l/min (ENERGIZED)			
CONTAMINATION LEVEL	MIN FILTRATION: 20/18/15 ACCORDING TO ISO 4406			
FILTERSCREEN SIZE	200 μm			

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## Inlet and Outlet Element Matching Configurations

### INLET ELEMENT CONFIGURATIONS

	P	PL	T	TL	G	EV1/2/3/4	EHV	
01	OPEN	NA	NA	NA	NA	AV	AV	
02	PLUGGED	OPEN	NA	NA	NA	AV	AV	
03	OPEN	OPEN	NA	NA	NA	AV	AV	
21	OPEN	NA	NA	NA	TOP OPEN	AV	AV	
22	PLUGGED	OPEN	NA	NA	TOP OPEN	AV	AV	
23	OPEN	OPEN	NA	NA	TOP OPEN	AV	AV	
07	OPEN	PLUGGED	OPEN	PLUGGED	NA	NA	NA	
08	PLUGGED	OPEN	PLUGGED	OPEN	NA	NA	NA	
27	OPEN	NA	OPEN	PLUGGED	SIDE OPEN	NA	NA	
28	NA	OPEN	PLUGGED	OPEN	TOP OPEN	NA	NA	

### OUTLET ELEMENT CONFIGURATIONS

		PRV	CPV	P3	MPp	TP	T	TL	TL1	NOTES
STANDARD CONFIGURATIONS FOR Z AND Z + IP	U33	YES	NO	PLUGGED - CLOSED CENTRE	PLUGGED	OPEN	OPEN	PLUGGED	NA	
	U34	YES	NO	PLUGGED - CLOSED CENTRE	PLUGGED	OPEN	PLUGGED	OPEN	NA	
	U35	YES	NO	PLUGGED - CLOSED CENTRE	PLUGGED	OPEN	PLUGGED	PLUGGED	NA	Port T in the inlet element
STANDARD CONFIGURATIONS FOR IP	U47	YES	NO	PLUGGED - CLOSED CENTRE	OPEN	PLUGGED	OPEN	PLUGGED	NA	
	U48	YES	NO	PLUGGED - CLOSED CENTRE	OPEN	PLUGGED	PLUGGED	OPEN	NA	
	U49	YES	NO	PLUGGED - CLOSED CENTRE	OPEN	PLUGGED	PLUGGED	PLUGGED	NA	Port T in the inlet element

### INTERMEDIATE LS PLATE CONFIGURATIONS

	LS	
ILS	OPEN	

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**Inlet and Outlet Element Matching Configurations****MATCHING CONFIGURATIONS**

	<b>01</b>	<b>02</b>	<b>03</b>	<b>07</b>	<b>08</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>27</b>	<b>28</b>
<b>U33</b>	X	X	X			X	X	X		
<b>U34</b>	X	X	X			X	X	X		
<b>U35</b>				X	X				X	X
<b>U47</b>	X	X	X			X	X	X		
<b>U48</b>	X	X	X			X	X	X		
<b>U49</b>				X	X				X	X

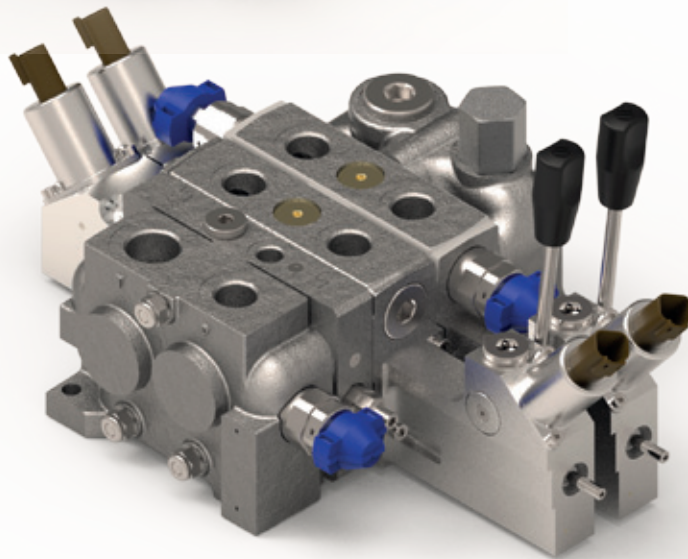
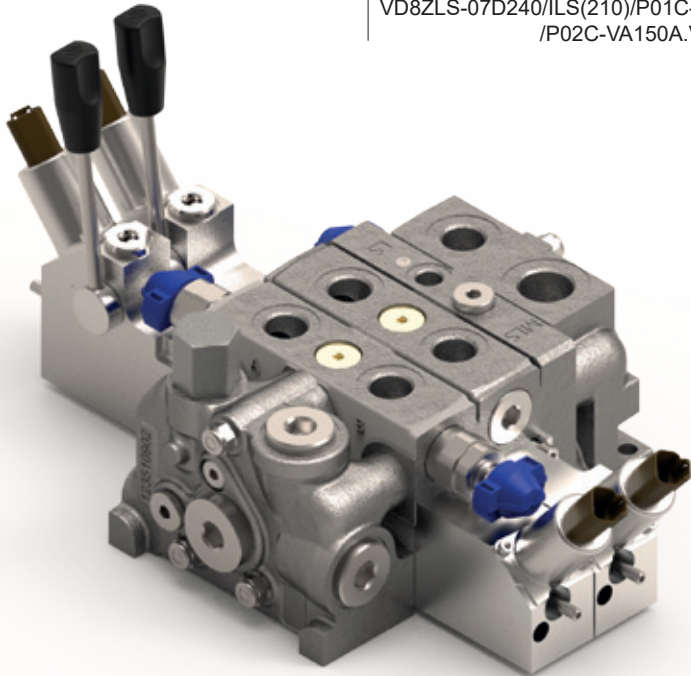


## VD8ZLS Configurations

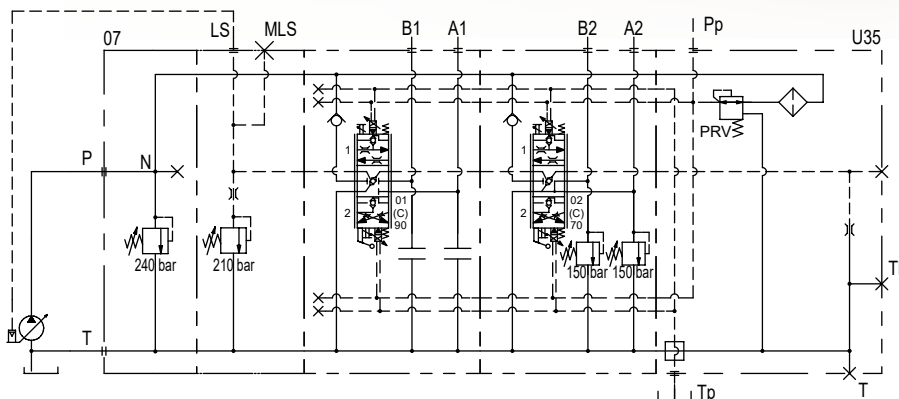
Example 1

**2 Bank Electro-hydraulic proportional controlled sections (24V)**

VD8ZLS-07D240/ILS(210)/P01C-PRA.PRB-LKEA-KE2DT/  
/P02C-VA150A.VA150B-LKEA-KE2DT/U35G



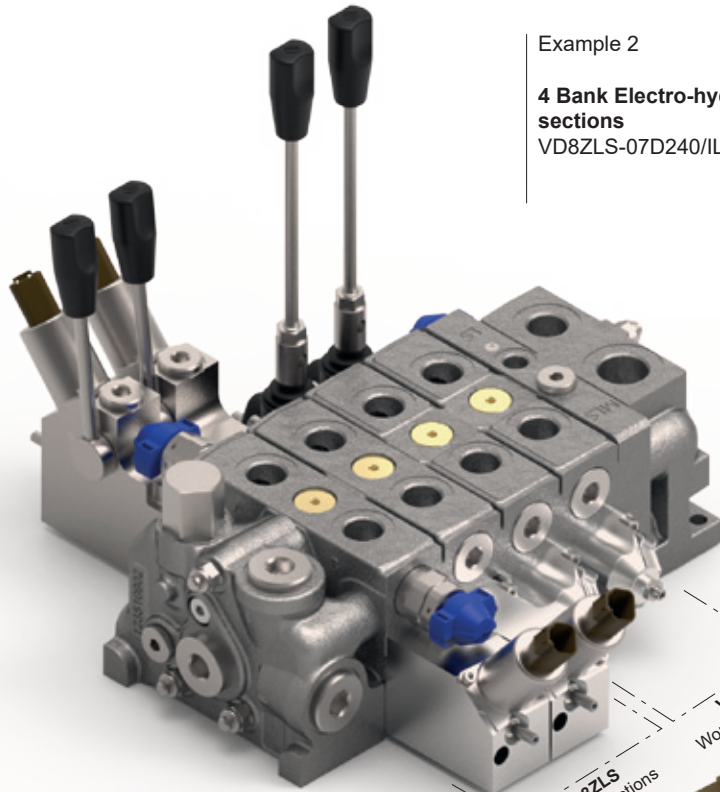
Hydraulic Circuit



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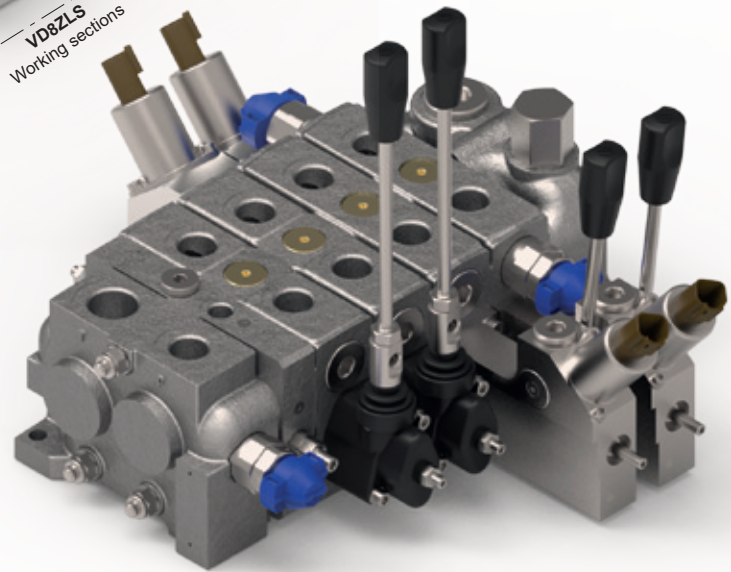
### VD8ZLS Configurations



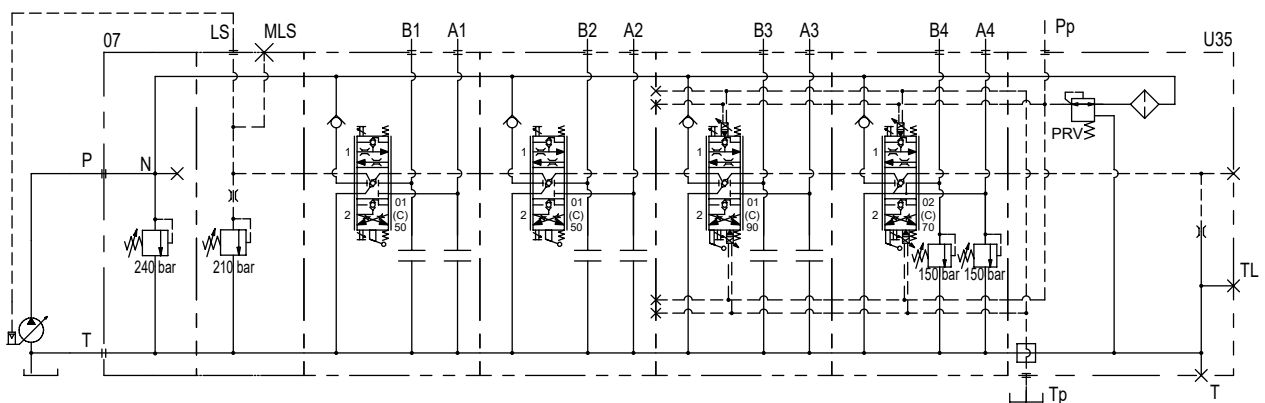
Example 2

#### 4 Bank Electro-hydraulic proportional (24) and manual controlled sections

VD8ZLS-07D240/ILS(210)/2xP01C50-PRA.PRB-NPEA-C2E/  
/P01C90-PRA.PRB-LKEA-KE2DT/  
/P02C70-VA150A.VA150B-LKEA-KE2DT/  
/U35G



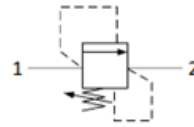
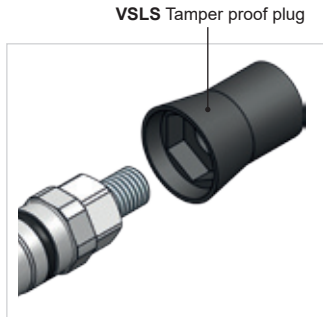
Hydraulic Circuit



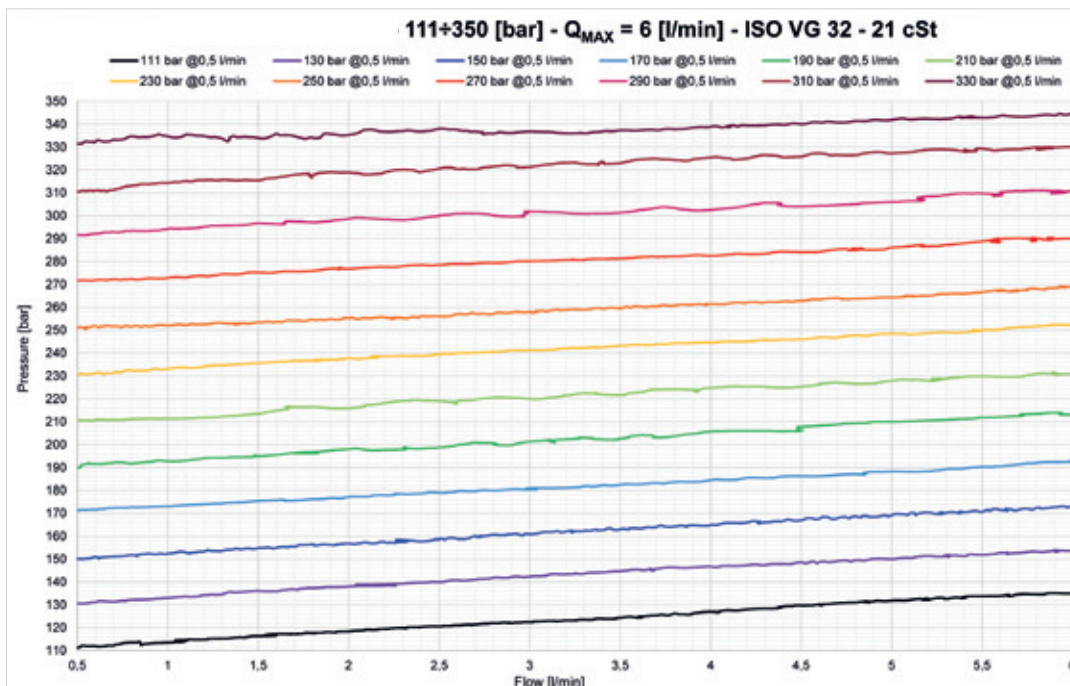
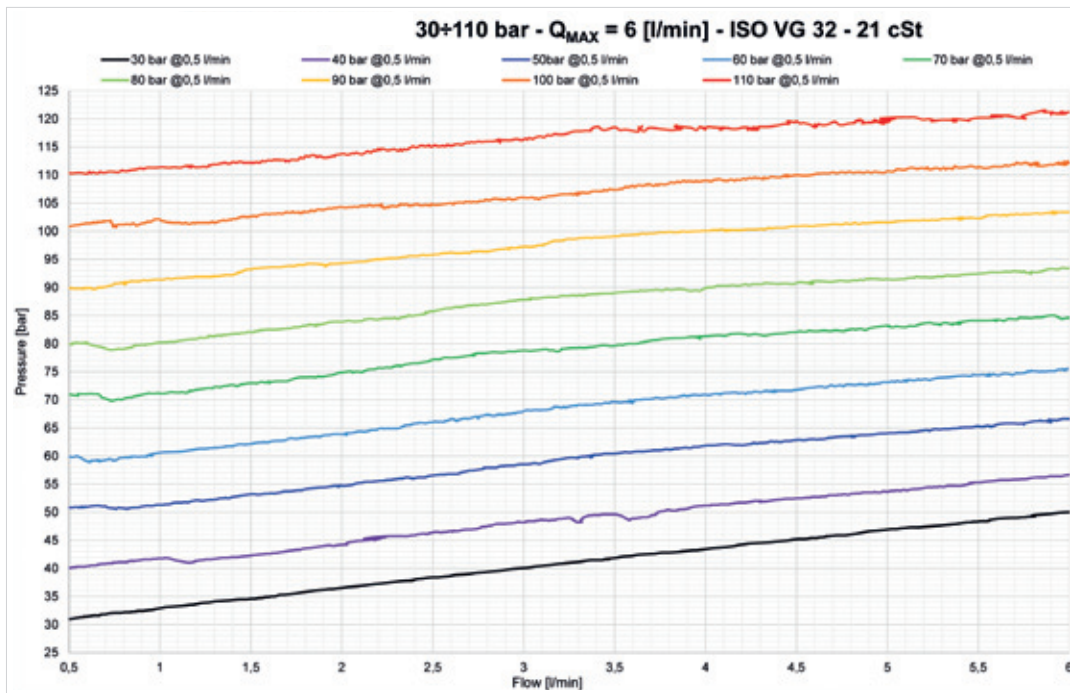
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## LS Main Pressure Relief Valve - VSLS



<b>Q<sub>MAX</sub></b>
6l/min – 1.5GPM
<b>Pressure setting range</b>
30-110 bar
111-350 bar



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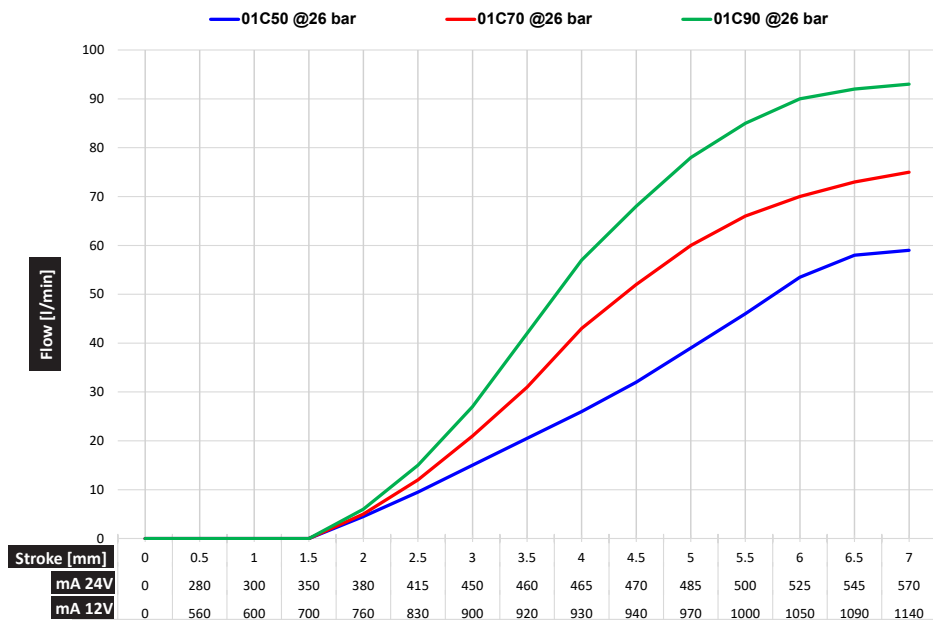
**Spools**

TYPE	FLOW CONTROL
<b>01C90</b> - Double acting cylinder spool	70-95 l/min @ 14-26 bar pump stand-by pressure
<b>02C90</b> - Double acting motor spool	
<b>01C70</b> - Double acting cylinder spool	55-75 l/min @ 14-26 bar pump stand-by pressure
<b>02C70</b> - Double acting motor spool	
<b>01C50</b> - Double acting cylinder spool	40-60 l/min @ 14-26 bar pump stand-by pressure
<b>02C50</b> - Double acting motor spool	

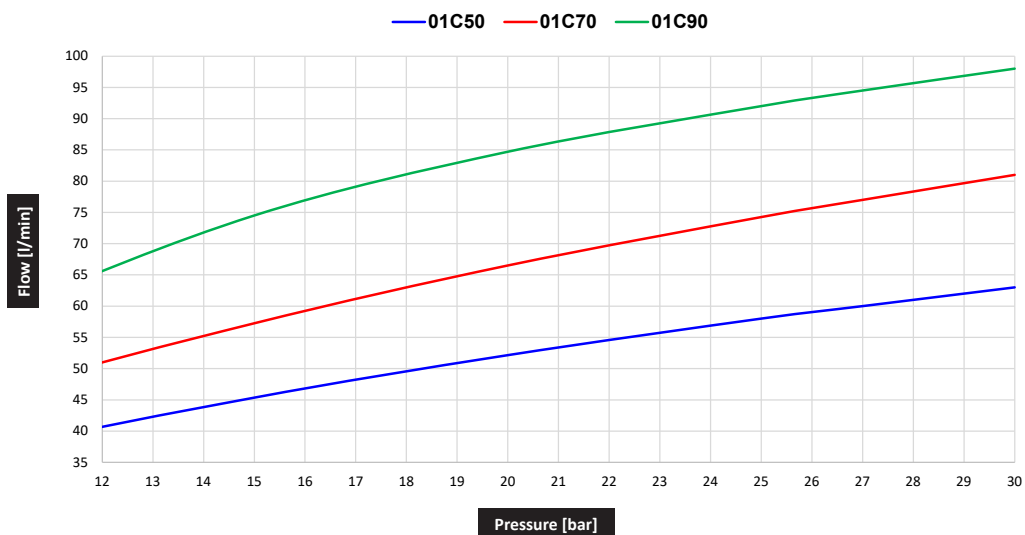
Oil ISO VG32 at 21 cSt

**Metering Curves**

Flow vs Spool stroke at 26 bar stand by pump pressure



Spool Flow vs Pump Stand-by Pressure



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► For any other options see **VD8A** Technical Catalogue (E0.06.0911.02.02)

<b>VD8ZLS</b>	01	D	210	-	EV2	/	ILS	210	/	2	X	P	01C	60	-	VA	150	A	.	VA	150	B	-	LKE	A	-	KE	2	DT	/	U7	G
	A	B	C		D		E	F		G	H		I			L		M		L	M		N	O		P	Q	R		S	T	

A	INLET ELEMENT
	01-02-03-21-22-23-07-08-27-28

B	MAIN RELIEF VALVE
D	Direct main relief valve
W	Without main relief valve

C	MAIN RELIEF VALVE SETTINGS
	From 25 to 350 bar (360 to 5070 psi)

D	SOLENOID UNLOADING VALVE
	EV1-EV2-EV3-EV4

D	HYDRAULIC UNLOADING VALVE
	EHV

E	INTERMEDIATE LS PLATE
	ILS

F	VLSL SETTING
	30-110 bar (435 to 1595 psi)
	111-350 bar (1600 to 5070 psi)

G	NUMBER OF IDENTICAL CONSECUTIVE SECTIONS

H	WORKING SECTIONS
P	Parallel circuit

I	SPOOL TYPES
01C	Double acting cylinder spool
02C	Double acting cylinder motor spool

I	NOMINAL SPOOL FLOW
50	40-60 l/min @ 14-26 bar pump stand-by pressure
70	55-75 l/min @ 14-26 bar pump stand-by pressure
90	70-95 l/min @ 14-26 bar pump stand-by pressure

L	AUXILIARY VALVES
VA	Antishock valve
AR	Antishock and Anticavitation valve
VR	Anticavitation valve
CV	Single/double acting conversion valve

T	PORTS
G	GAS - BSP Threaded (ISO 228)
S	SAE UN - UNF Threaded (ISO 725)

S	OUTLET ELEMENT
	(STANDARD CONFIGURATIONS FOR Z AND Z + IP) U33-U34-U35
	(STANDARD CONFIGURATIONS FOR IP) U47-U48-U49

R	CONNECTOR TYPE
JA	AMP JUNIOR TIMER
DT	DEUTSCH DT04-2P

Q	ELECTRO-HYDRAULIC MODULES VOLTAGE
1	12V
2	24V

P	SPOOL POSITIONINGS
KE	Electro-hydraulic proportional with stroke adjuster

O	CONTROL SIDE
A	A port side
B	B port side

N	SPOOLS CONTROLS
LKE	Electro - hydraulic proportional with lever and stroke adjuster
SKE	Electro - hydraulic proportional and stroke adjuster

M	PORT ON WHICH THE VALVE IS MOUNTED





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