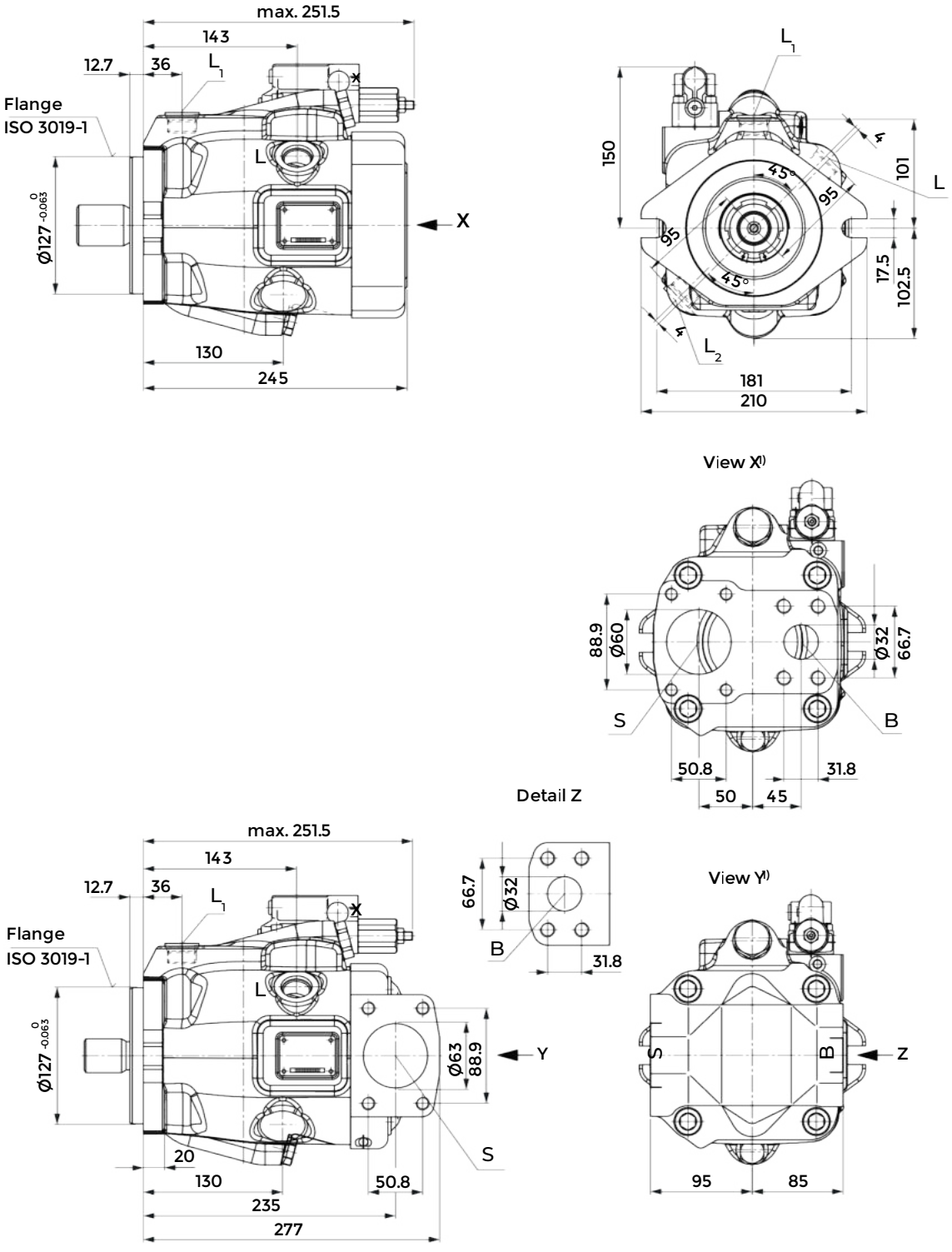
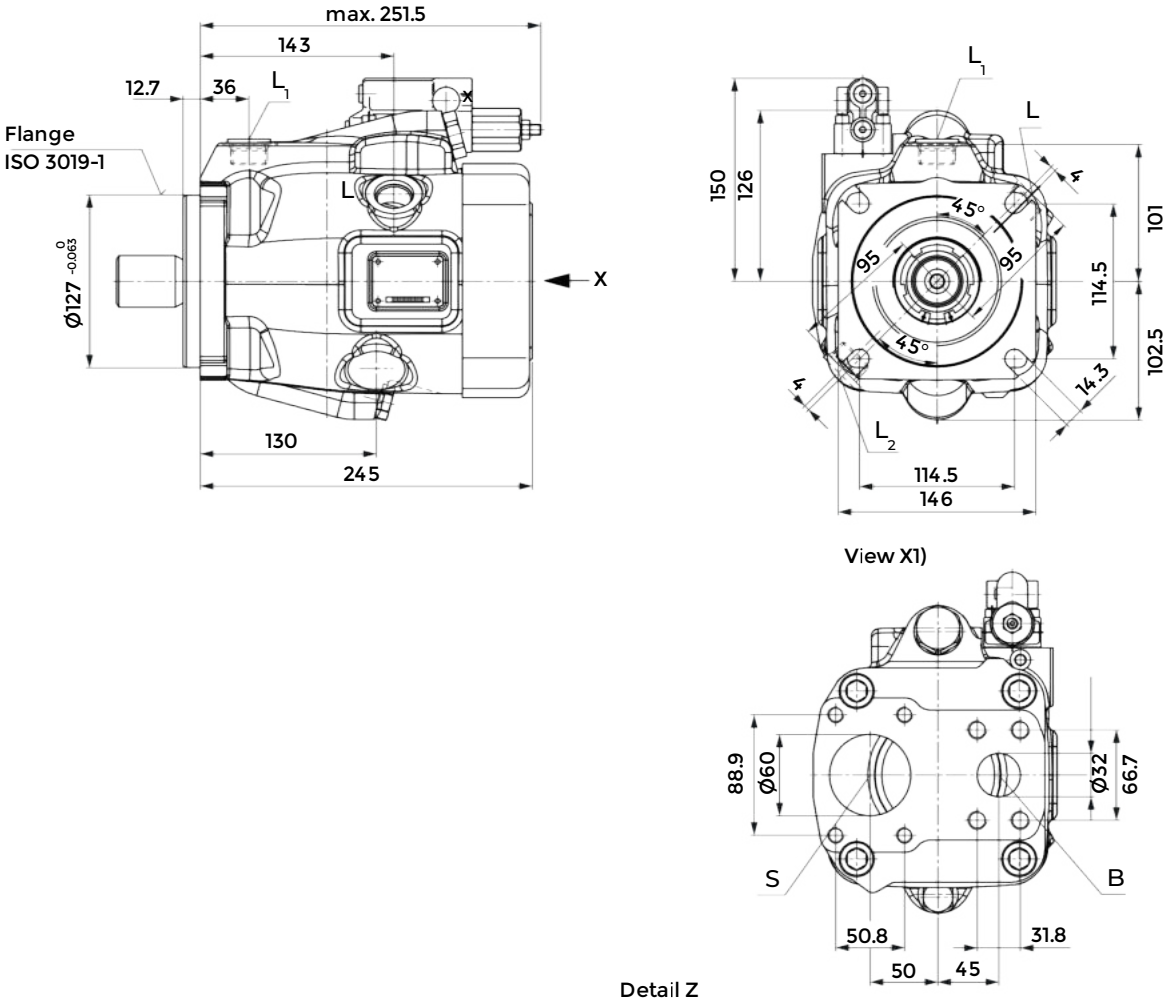
DR – Hydraulic pressure controller, clockwise rotation, mounting flange C,53



DR – Hydraulic pressure controller, clockwise rotation, mounting flange D,53



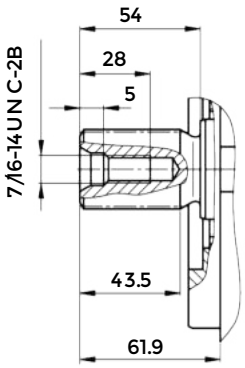
RE 92703/2023-07-11

Dimensions Size;

HA10VO53-100cc

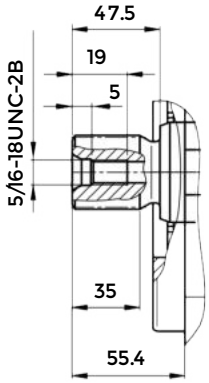
▾ Splined shaft 1 1/2 in SAE J744

S – 17T 12/24DP1)



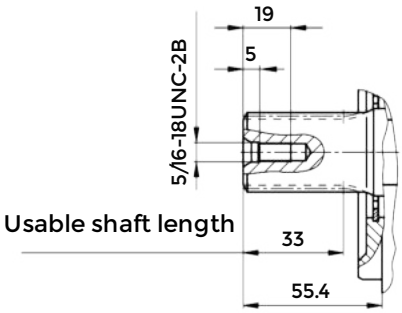
▾ Splined shaft 1 1/4 in SAE J744

U – 14T 12/24DP1)



▾ Splined shaft 1 1/4 in SAE J744

W – 14T 12/24DP1)



-Technical Data

Size		NG		10	18	28	45	60	63	72	85	100
Displacement, geometric, per revolution		$V_{g\,max}$	cm^3	10.5	18	28	45	60	63	72	85	100
Speed maximum	at V_g max	n_{nom}	rpm	3600	3300	3000	2600	2700	2600	2600	2500	2300
	at $V_g < V_{g\,max}$	$n_{max\,perm.}$	rpm	4320	3960	3600	3120	3140	3140	3140	3000	2500
Flow	at n_{nom} and $V_{g\,max}$	$q_{v\,max}$	l/min	37	59	84	117	162	163	187	212	230
	at n_E= 1500 rpm	$q_{vE\,max}$	l/min	15	27	42	68	90	95	108	128	150
Power	at n_{nom}, $V_{g\,max}$ Δp = 250 bar	P_{max}	kW	16	25	35	49	65	68	77	89	96
	at n_E= 1500 rpm	$P_{E\,max}$	kW	7	11	18	28	37	39	45	53	62
Torque	at $V_{g\,max}$ Δp = 250 bar	T_{max}	Nm	42	71	111	179	238	250	286	338	398
	at $V_{g\,max}$ Δp = 100 bar	T	Nm	17	29	45	72	95	100	114	135	159
Rotary stiffness of drive shaft	S	c	Nm/rad	9200	11000	22300	37500	65500	65500	65500	143000	143000
	R	c	Nm/rad	-	14800	26300	41000	69400	69400	69400	152900	-
	U	c	Nm/rad	6800	8000	16700	30000	49200	49200	49200	102900	102900
	W	c	Nm/rad	-	-	19900	34400	54000	54000	54000	117900	117900
	P	c	Nm/rad	10700	-	-	-	-	-	-	-	-
Moment of inertia for rotary group		J_{TW}	kgm^2	0.0006	0.0009	0.0017	0.003	0.0056	0.0056	0.0056	0,012	0,012
Maximum angular acceleration		α	rad/s^2	8000	6800	5500	4000	3300	3300	3300	2700	2700
Case volume		V	l	0.2	0.25	0.3	0.5	0.8	0.8	0.8	1	1
Weight without through drive (approx.)		m	kg	8	11.5	15	18	22	22	22	36	36
Weight with through drive (approx.)				-	13	18	24	28	28	28	45	45

A10V(S)O Series 53
Type code

01	02	03	04		05	06		07	08	09	10	11	12	13
A10V	**O**			**/**	**53**		**-**		**V**					

Axial piston unit

		18	28	45	63	72	85	100	
01	Swashplate design, variable, nominal pressure 250 bar, maximum pressure 315 bar			–	•	•	•	•	**A10V**

Operation mode

02	Pump, open circuit	**O**

Size (NG)

		18	28	45	63	72	85	100
03	Geometric displacement, see table of values on page 10	**18**	**28**	**45**	**63**	**72**	**85**	**100**

Control devices

					18	28	45	63	72	85	100	
04	Pressure controller	hydraulic			•	•	•	•	•	•	•	**DR**
	with flow controller	hydraulic	X-T open		•	•	•	•	•	•	•	**DRF**
			X-T plugged with flushing function		•	•	•	•	•	•	•	**DRS**
			X-T plugged without flushing function		•	•	•	•	•	•	•	**DRSC**
	with pressure cut-off	hydraulic	remotely operated		•	•	•	•	•	•	•	**DRG**
		electric	negative control	U = 12 V	–	•	–	•	•	•	•	**ED71**
				U = 24 V	–	•	–	•	•	•	•	**ED72**
		electric	positive control	U = 12 V	–	•	–	•	•	•	•	**ER71**
				U = 24 V	–	•	–	•	•	•	•	**ER72**
	Pressure-flow power control		electric control (negative control)		○	○	○	○	○	•	•	**EF..**
	Power control with pressure cut-off	hydraulic	start of control from	10 to 35 bar	•	•	•	•	•	•	•	**LA5D**
				36 to 70 bar	•	•	•	•	•	•	•	**LA6D**
				71 to 105 bar	•	•	•	•	•	•	•	**LA7D**
				106 to 140 bar	•	•	•	•	•	•	•	**LA8D**
				141 to 230 bar	•	•	•	•	•	•	•	**LA9D**
	remotely operated	hydraulic	start of control	see LA.D	•	•	•	•	•	•	•	**LA.DG**
	flow control, X-T plugged	hydraulic	start of control	see LA.D	•	•	•	•	•	•	•	**LA.DS**
		electrically overridable (negative control)	start of control	see LA.D	•	•	•	•	•	•	•	**LA.S**
	Electro-proportional control		positive control									
	with pressure control			U = 12 V	•	•	•	•	•	•	•	**EP1D**
				U = 24 V	•	•	•	•	•	•	•	**EP2D**
	with pressure and flow control (load-sensing)		X-T open	U = 12 V	•	•	•	•	•	•	•	**EP1DF**
				U = 24 V	•	•	•	•	•	•	•	**EP2DF**
	with pressure and flow control (load-sensing)		X-T plugged	U = 12 V	•	•	•	•	•	•	•	**EP1DS**
				U = 24 V	•	•	•	•	•	•	•	**EP2DS**
	with electro-hydraulic pressure control			U = 12 V	•	•	•	•	•	•	•	**EP1ED**
				U = 24 V	•	•	•	•	•	•	•	**EP2ED**

A10V(S)O Series 53
Type code

01	02	03	04		05	06		07	08	09	10	11	12	13
A10V	**O**			**/**	**53**		**-**		**V**					

Control devices

				18	28	45	63	72	85	100	
04	Electro-proportional control	positive control									
	with pressure control		U = 12 V	•	•	•	•	•	•	•	**EK1D**
			U = 24 V	•	•	•	•	•	•	•	**EK2D**
	with pressure and flow control (load-sensing)	X-T open	U = 12 V	•	•	•	•	•	•	•	**EK1DF**
			U = 24 V	•	•	•	•	•	•	•	**EP2DF**
	with pressure and flow control (load-sensing)	X-T plugged	U = 12 V	•	•	•	•	•	•	•	**EP1DS**
			U = 24 V	•	•	•	•	•	•	•	**EP2DS**
	electro-hydraulic pressure control with controller cut-off		U = 12 V	•	•	•	•	•	•	•	**EP1ED**
			U = 24 V	•	•	•	•	•	•	•	**EP2ED**

Series

05	Series 5, index 3		•	•	•	•	•	•	•	**53**

Direction of rotation

06	View on drive shaft	clockwise	**R**
		counter-clockwise	**L**

Sealing material

07	FKM (fluor-caoutchouc)	**V**

Drive shaft

08	Splined shaft ANSI B92.1a	standard shaft	•	•	•	•	•	•	•	**S**
		similar to shaft “S” however for higher input torque	•	•	•	•	•	•	–	**R**
		reduced diameter, limited suitability for through drive	•	•	•	•	•	•	•	**U**
		similar to shaft “U”, however for higher torque	–	•	•	•	•	•	•	**W**

Mounting flange

09	ISO 3019-1 (SAE)	2-hole	•	•	•	•	•	•	•	**C**
		4-hole	–	–	–	•	•	•	•	**D**

Working port

10	SAE flange port fastening thread, metric	rear	not for through drive	•	•	•	•	•	•	•	**11**
		at side, opposite	for through drive	•	•	•	•	•	•	•	**12**
		at side, offset 90°	not for through drive; available only for counter-clockwise direction of rotation	–	–	•	–	–	–	–	**13**

A10V(S)O Series 53
Type code

01	02	03	04		05	06		07	08	09	10	11	12	13
A10V	**O**			**/**	**53**		**-**	**V**						

Through drive

11	Flange ISO 3019-1 Diameter	Hub for splined shaft Diameter		**18**	**28**	**45**	**63**	**72**	**85**	**100**	
	without through drive			●	●	●	●	●	●	●	**N00**
	82-2 (A)	5/8 in	9T 16/32DP	●	●	●	●	●	●	●	**K01**
		3/4 in	11T 16/32DP	●	●	●	●	●	●	●	**K52**
	101-2 (B)	7/8 in	13T 16/32DP	–	●	●	●	●	●	●	**K68**
		1 in	15T 16/32DP	–	–	●	●	●	●	●	**K04**
	127-4 (C)	1 1/4 in	14T 12/24DP	–	–	–	●	●	●	●	**K15**
		1 1/2 in	17T 12/24DP	–	–	–	–	–	●	●	**K16**
	127-2 (C)	1 1/4 in	14T12/24DP	–	–	–	–	–	●	●	**K07**
		1 1/2 in	17T 12/24DP	–	–	–	–	–	●	●	**K24**

Connectors for solenoids

12	Without connector (without solenoid, with hydraulic control only, without code)	●	●	●	●	●	●	●	
	DEUTSCH – molded connector, 2-pin – without suppressor diode (for electric controls)	●	●	●	●	●	●	●	**P**

● = Available ○ = On request – = Not available