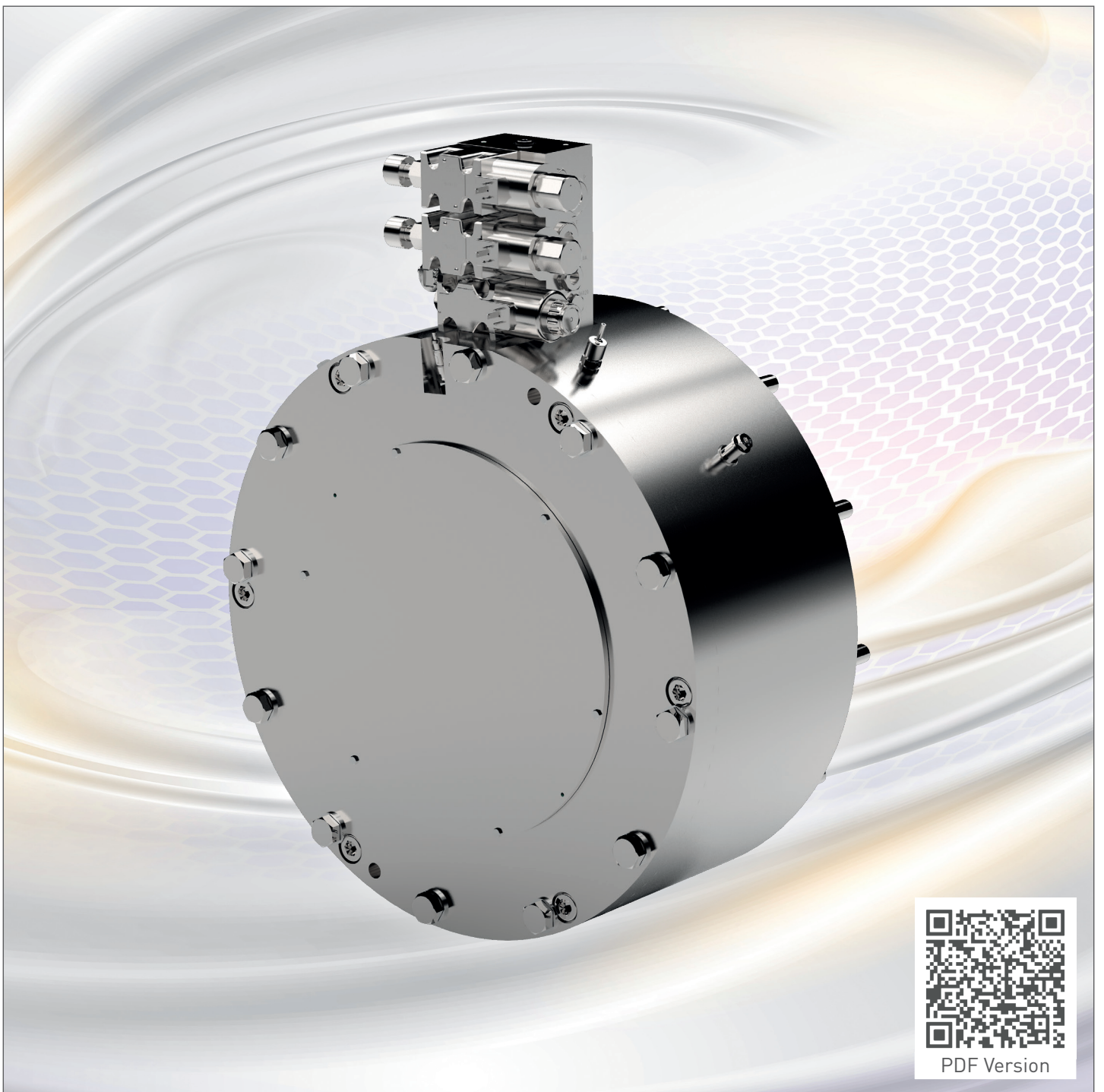


## DESCH Servox® Brake WRB



PDF Version

## DESCH Servox® WRB - Wet Running Brake

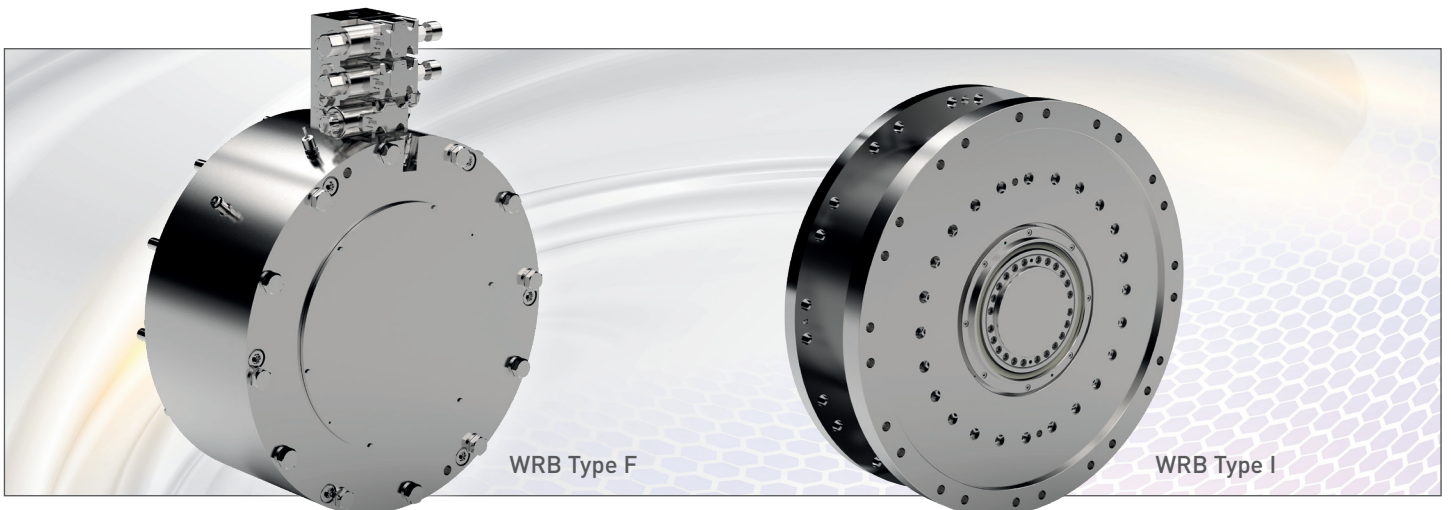
Press drives on modern servo presses are subjected to the highest security requirements. These presses are driven by large servo motors and have individual press characteristics. A high dynamic requirement profile.

DESCH supplied almost 500 Servox® drives in the last 10 years for this type of application. In addition to the planetary gearbox, the presses are always equipped with an integrated servo brake as a holding device with emergency stop function.

With our detailed and long standing experience in servo technology, DESCH has developed a separate servo brake - our new Servox® WRB series. This series complies with the latest safety requirements according to DIN EN ISO 16092-2, is free of friction corrosion and Industry 4.0 ready.

This WRB series includes two design options, WRB-F and WRB-I. The WRB-F type as a solution mounted on a free shaft end or on the B side of the servo motor. The WRB-I type is integrated between servo motor and machine.

The holding torques of each brake are designed in line with the market requirements for servo presses. The brake withstands possible high thermal loads in dynamic braking situations of the press, especially in emergency situations, power failures, in supporting the servo motor or for protection of your press transfer. The wet running system makes it possible. Also dynamic brake tests can be realised without additional wear.



### Description

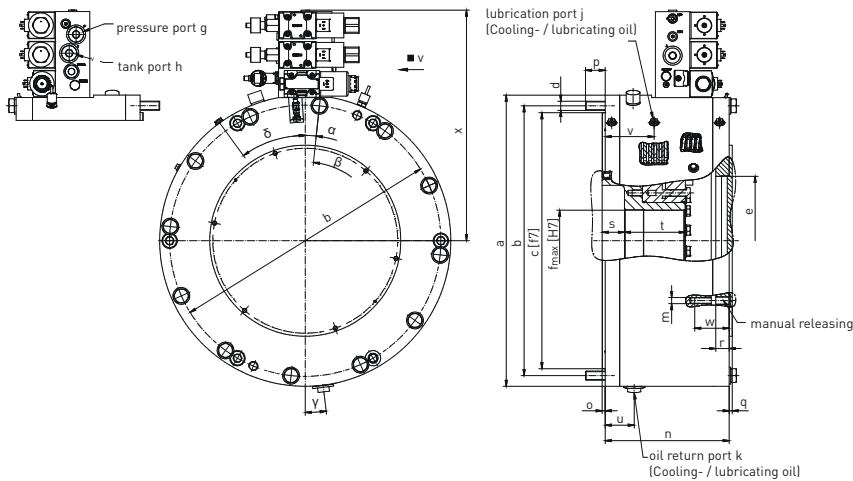
- Static holding brake with emergency stop function
- Hydraulically released, spring applied
- Diameter compatible with most competitive brakes
- Friction material steel / sinter, wet running
- Free of wear
- No influence of an oily environment to the static holding torque
- Dynamic braking stops possible
- Low inner moment of inertia
- Free of friction corrosion
- Possible hub-shaft connections, e.g. spline, clamping devices
- CE marking
- According to DIN EN ISO 16092-2 compliant
- Industry 4.0 ready

### Field of Application

- Servo motor driven, mechanical presses
- Generally use as a static holding brake and an additional dynamic brake in emergency stop situations

### Installation Options

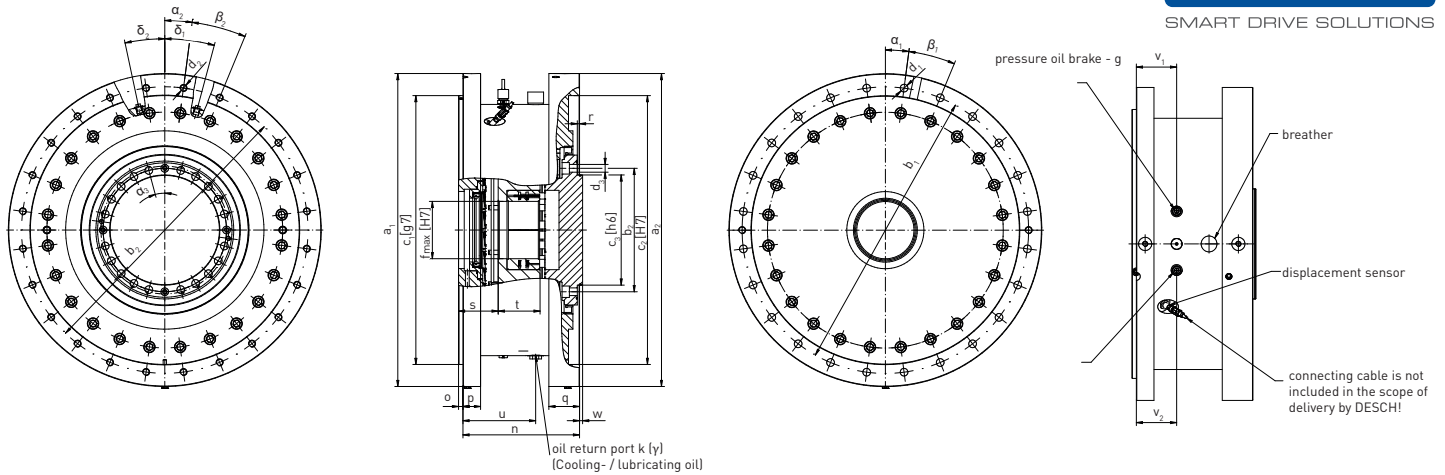
- Integrated solution between servo motor and machine
- Flanged solution mounted on a free shaft end or on the B side of the servo motor



## DESCH Servox® Brake WRB Type F

Brake Size			WRB F 30 - X	WRB F 60 - X
X=1	Static holding torque	$T_{stat}$ [Nm]	30.000	60.000
	Dynamic brake torque	$T_{dyn}$ [Nm]	21.000	42.500
	Min. release pressure	$p_{min}$ [bar]	50	35
X=2	Static holding torque	$T_{stat}$ [Nm]	25.000	54.000
	Dynamic brake torque	$T_{dyn}$ [Nm]	17.900	38.500
	Min. release pressure	$p_{min}$ [bar]	40	30
X=3	Static holding torque	$T_{stat}$ [Nm]	21.000	45.000
	Dynamic brake torque	$T_{dyn}$ [Nm]	15.000	32.000
	Min. release pressure	$p_{min}$ [bar]	35	26
X=4	Static holding torque	$T_{stat}$ [Nm]	-	38.000
	Dynamic brake torque	$T_{dyn}$ [Nm]	-	27.000
	Min. release pressure	$p_{min}$ [bar]	-	22
	Max. release pressure	$p_{max}$ [bar]	100	100
	Max. speed in idle run	$n_{max, idle run}$ [rpm]	1.400	1.100
	Max. brake speed**	$n_{max, brake}$ [rpm]	-	-
	Oil release volume in new conditions	$V_{h, new}$ [cm <sup>3</sup> ]	240	770
	Lubrication oil volume	$V_{ol}$ [l/min]	8,0	14,0
	Oil type		CLP / HLP	CLP / HLP
	Oil viscosity***	ISO-VG:	46 - 150	46 - 150
	Inner moment of inertia	$J_{inner}$ [kgm <sup>2</sup> ]	1,06	4,94
	Weight	ca. m [kg]	380	830
	a	[mm]	548	762
	b	[mm]	508	710
	c [f7]	[mm]	480	670
	d	[mm]	12 x M20	12 x M24
	e	[mm]	230	337
	$f_{max}$ [H7]	[mm]	130	160
	g / h	[mm]	G3/4"	G1"
	j	[mm]	G3/8"	G3/8"
	k	[mm]	G1 1/2"	G 1 1/2"
	m	[mm]	4 x M12	4 x M16
	n	[mm]	261	324,5
	o	[mm]	6	8
	p	[mm]	36	51,5
	q	[mm]	8	8
	r	[mm]	31	35
	s	[mm]	0	58,5
	t	[mm]	140	159
	u	[mm]	87	76
	v	[mm]	137	128
	w	[mm]	56	90
	x	[mm]	441	604

X = spring setting \*\* Max. brake speed according to thermal calculation \*\*\* Other oil viscosities possible on demand  
Different shaft connections possible. Clamping devices, splines

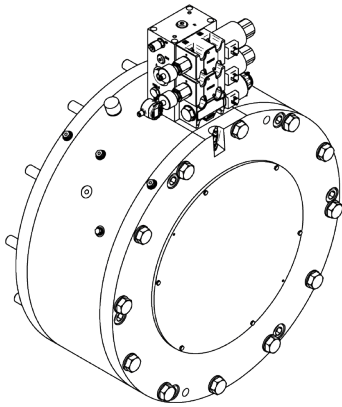


## DESCH Servox® Brake WRB Type I

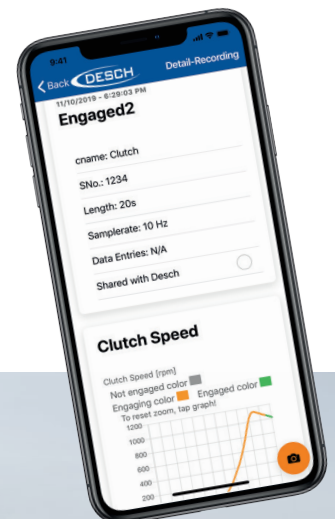
Brake Size			WRB I 10 - X	WRB I 20 - X	WRB I 50 - X
Siemens motor SIMOTICS			T-1FW3 20...	T-1FW3 28...	T-1FW4 40...
X=1	Static holding torque	$T_{stat}$ [Nm]:	8.900	19.100	46.600
	Dynamic brake torque	$T_{dyn}$ [Nm]	5.230	11.190	27.200
	Min. release pressure	$p_{min}$ [bar]	35	35	38
X=2	Static holding torque	$T_{stat}$ [Nm]	5.100	12.700	-
	Dynamic brake torque	$T_{dyn}$ [Nm]	2.990	7.460	-
	Min. release pressure	$p_{min}$ [bar]	20	25	-
X=3	Static holding torque	$T_{stat}$ [Nm]	3.800	9.500	-
	Dynamic brake torque	$T_{dyn}$ [Nm]	2.240	5.600	-
	Min. release pressure	$p_{min}$ [bar]	15	20	-
X=4	Static holding torque	$T_{stat}$ [Nm]	-	6.300	-
	Dynamic brake torque	$T_{dyn}$ [Nm]	-	3.730	-
	Min. release pressure	$p_{min}$ [bar]	-	15	-
	Max. release pressure	$p_{max}$ [bar]	60	60	60
	Max. speed in idle run	$n_{max, idle run}$ [rpm]	1.900	1.400	700
	Max. brake speed**	$n_{max, brake}$ [rpm]	-	-	-
	Oil release volume in new conditions	$V_{h, new}$ [cm <sup>3</sup> ]	101	188	414
	Lubrication oil volume	$V_{ol}$ [l/min]	3,5	5,0	11,0
	Oil type		CLP / HLP	CLP / HLP	CLP / HLP
	Oil viscosity***	ISO-VG	46 - 150	46 - 150	46 - 150
	Inner moment of inertia	$J_{inner}$ [kgm <sup>2</sup> ]	0,52	1,41	4,02
	Weight	ca. m [kg]	335	528	1.317
	$a_1 / a_2$	[mm]	550	710	1.150
	$b_1 / b_2$	[mm]	500	650	1.080
	$b_3$	[mm]	170	280	285
	$c_1$ [g7] / $c_2$ [H7]	[mm]	450	610	1.000
	$c_3$ [h6]	[mm]	153	250	250
	$d_1$	[mm]	16 x Ø13,5	24 x Ø17,5	24 x Ø33
	$d_2$	[mm]	16 x M12	24 x M16	24 x M30
	$d_3$	[mm]	12 x Ø13,5	24 x Ø17,5	24 x Ø22
	$f_{max}$ [H7]	[mm]	75	130	170
	g	[mm]	G 1/4"	G 1/4"	G 1/4"
	h	[mm]	G 1/4"	G 1/4"	G 1/2"
	k	[mm]	G 3/4"	G 1"	G 1 1/4"
	n	[mm]	241	274,5	338
	o	[mm]	10	10	10
	p	[mm]	30	40	50
	q	[mm]	65	69,5	69,5
	r	[mm]	5	5	0
	s	[mm]	76	90	133
	t	[mm]	97	95	109
	u	[mm]	151	165	195
	$v_1$	[mm]	83	91,5	111
	$v_2$	[mm]	91	91,5	111
	w	[mm]	7	7	12

X = spring setting \*\* Max. brake speed according to thermal calculation \*\*\* Other oil viscosities possible on demand  
 Different shaft connections possible. Clamping devices, splines

# Industry 4.0 Condition Monitoring / Predictive Maintenance



- Temperature sensor → monitoring of the brake temperature, brake failure warning and protection against damages
- Piston position and displacement sensor → redundant monitoring of the switch position brake on / off (in powertrain) and measuring the piston path for wear and reaction time monitoring of the brake
- Optional press safety valve PSV size NG10 and 16 according to the latest safety requirements of DIN EN ISO 16092-2
- DESCH app will be coming soon



## CONTACT

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