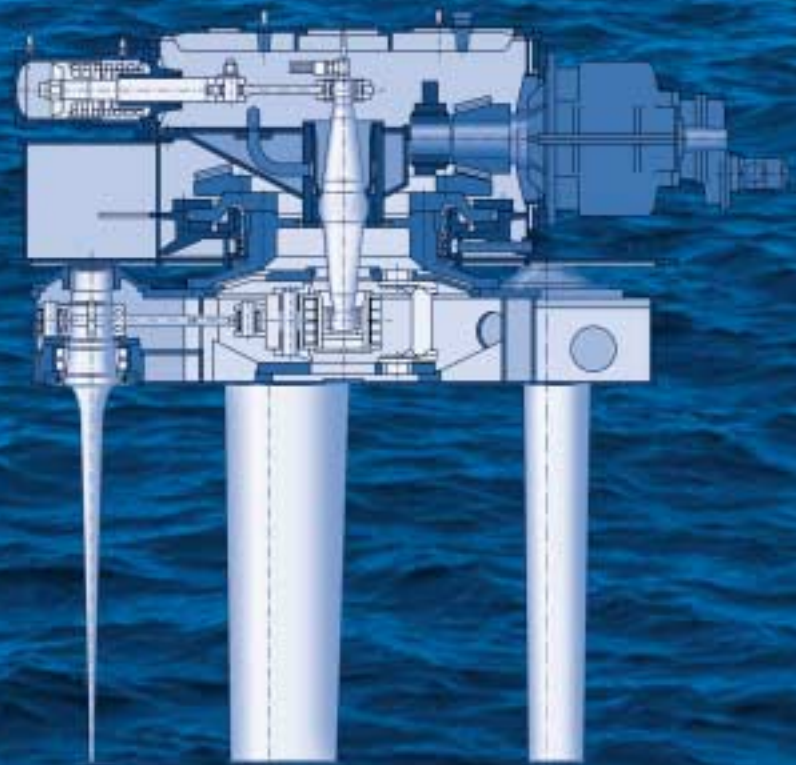


VOITH

Voith-Schneider® Propeller

Types and Dimensions



Propeller types and main dimensions

VOITH

VSP

28 G II

Prop.no. 3733

Year built 2002

Example for propeller designation:

28 G II / 210

blade length in cm
 gear steps
 propeller type
 blade orbit diameter in dm

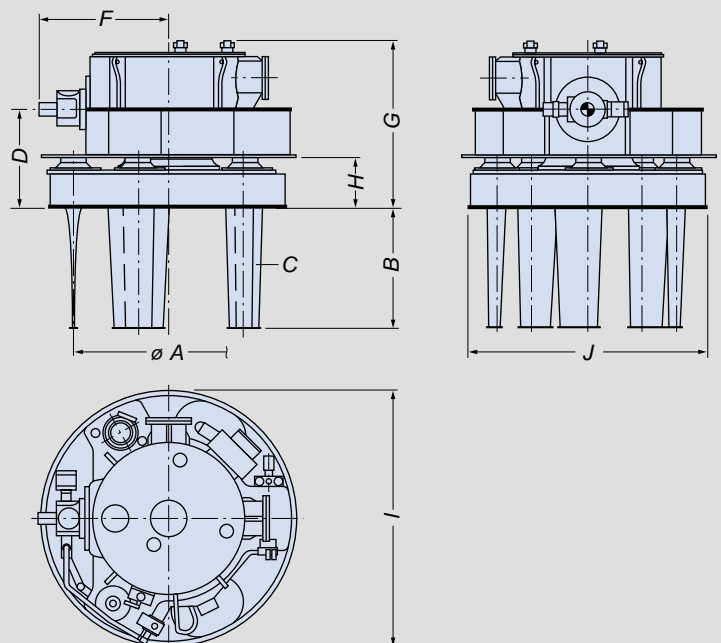
32 R 6 / 210 - 2

gear steps
 blade length in cm
 number of blades
 propeller type
 blade orbit diameter in dm

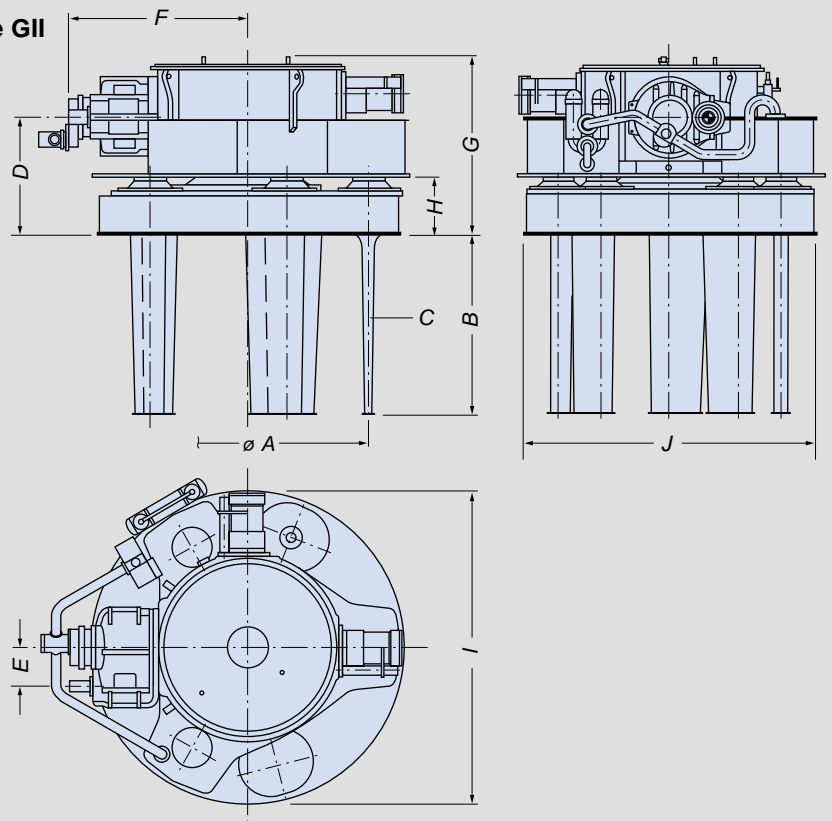
The selection of the suitable Voith-Schneider Propeller for a specific application cannot only be made according to hydrodynamic criteria. In each individual case the mechanical loads on the most important system components like blades, gear units and kinematics due to the required propeller thrust and the torque to be transmitted have to be determined and checked. For this reason we reserve the right to choose the propeller to be used.

Our current production program contains different types:
 Type EG, K, KG, G II, R5, R6

Type KG



Type GII



For a preliminary size determination in the initial project stage, a propeller selection according to the max. propeller input power as per the table below is possible. This table also states the permissible input speed ranges.

Furthermore the table contains the most important dimensions, weights, moments of inertia referred to the vertical axis of rotation and the oil filling for the propellers of our current production program.

A = blade pitch diameter
 B = blade length (standard)
 C = number of blades
 D = height (input shaft)
 E = pinion offset
 F = length (input shaft)
 G = total height (propeller)
 H = well height
 I = casing outside diameter
 J = rotor casing outside diameter

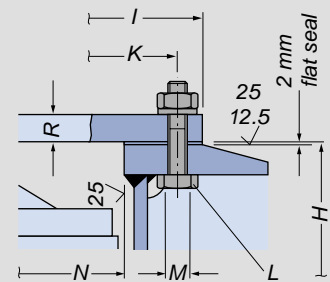
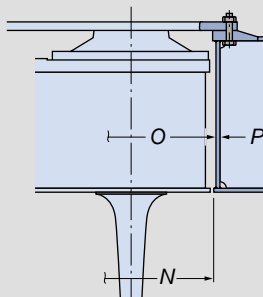
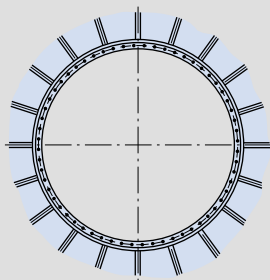
Propeller type/size	A	B	C	D	E	F	G	H	I	J	Weight without oil	Oil filling	Moment of inertia of rotor*)	Max. propeller input power*)	Propeller input speed*)
	mm	mm	no.	mm	mm	mm	mm	mm	mm	mm	abt. kg	abt. l	kgm2	kW**)	abt. rpm
10EG/65	1000	653	4	395	0	668	969	242	1390	1274	1660	140	160	180	900
12K/90	1200	904	4	550	0	1020	1220	310	1660	1532	3800	380	420	260	1000
16KG/100	1600	1007	5	815	0	1100	1375	410	2145	2021	6400	680	1740	470	600
20R5/150-1	2000	1506	5	1100	0	1420	1700	500	2715	2540	13500	1300	5500	950	530
21GII/150	2100	1506	5	1100	360	1667	1755	500	2815	2640	16000	1600	6000	1000/850	700-1700
26GII/165	2600	1655	5	1245	400	1900	1895	575	3360	3170	23000	2600	17100	1325/1126	650-1500
26GII/195	2600	1955	5	1340	400	1970	1980	660	3435	3235	27500	2700	18600	1500/1275	750-1200
28GII/210	2800	2105	5	1370	450	2135	2075	670	3710	3480	32000	3200	26900	1925/1636	750-1000
32R6/210-2	3200	2105	6	1560	500	2330	2353	730	4170	3900	44000	4500	40000	2400/2040	700-1000
32GII/250	3200	2506	5	1580	560	2450	2373	750	4250	4000	52000	4600	52000	2500/2125	750-1200
36R6/255-2	3600	2560	6	1930	630	2730	2820	900	4770	4490	76000	7500	110000	3350/2848	700-1000
38R6/270-1	3800	2712	6	2050	–	2650	3000	970	5030	4720	90000	9600	135000	4100/3485	200

*) The exact limit values must be established in consultation with us for the individual case of application.

***) 1st value intermittent load rating (e.g. VWT)
 2nd value full continuous load rating (e.g. ferry)

Propeller well

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The foundation for the Voith-Schneider® Propeller, the so-called propeller well, consists of a cylindrical shell with a flange. The propeller well must form an integral part of the bottom structure of the vessel so that in addition to the propeller weight, the forces and moments resulting from the propeller thrust can also be transmitted without stress concentrations into the ship's hull. It has to be taken into account that the propeller thrust can vary by a full 360°, i.e. over the entire horizontal plane.

The structural design of the well is shown in the figures above. The dimensions as well as the permissible tolerances for the individual propeller sizes are included in the table on the right.

Propeller type/size	K mm	L number	M mm	N mm	O mm	P mm	R mm
10EG/65	1350	27	16	1282+3	1296	8	18
12K/90	1620	30	18	1540+4	1555	10	12
16KG/100	2110	36+9	18	2032+5	2048	10	21
20R5/150-1	2660	48	26	2555+5	2575	12	28
21GII/150	2760	48	26	2655+5	2675	12	28
26GII/165	3305	54	27	3190+5	3210	14	30
26GII/195	3380	54+15	27	3260+5	3280	14	30
28GII/210	3640	60	27	3500+5	3530	14	35
32R6/210-2	4070	66+21	33	3920+5	3950	16	40
32GII/250	4150	66+21	33	4020+5	4050	16	40
36R6/255-2	4680	72+21	39	4515+5	4550	18	50
38R6/270-1	4930	72+21	45	4745+5	4780	18	50

K = bolthole circle diameter
L = number of bolts
M = bolthole diameter
N = well diameter
O = well shell diameter
P = well shell thickness
R = casing flange thickness

VOITH
Engineered reliability.