



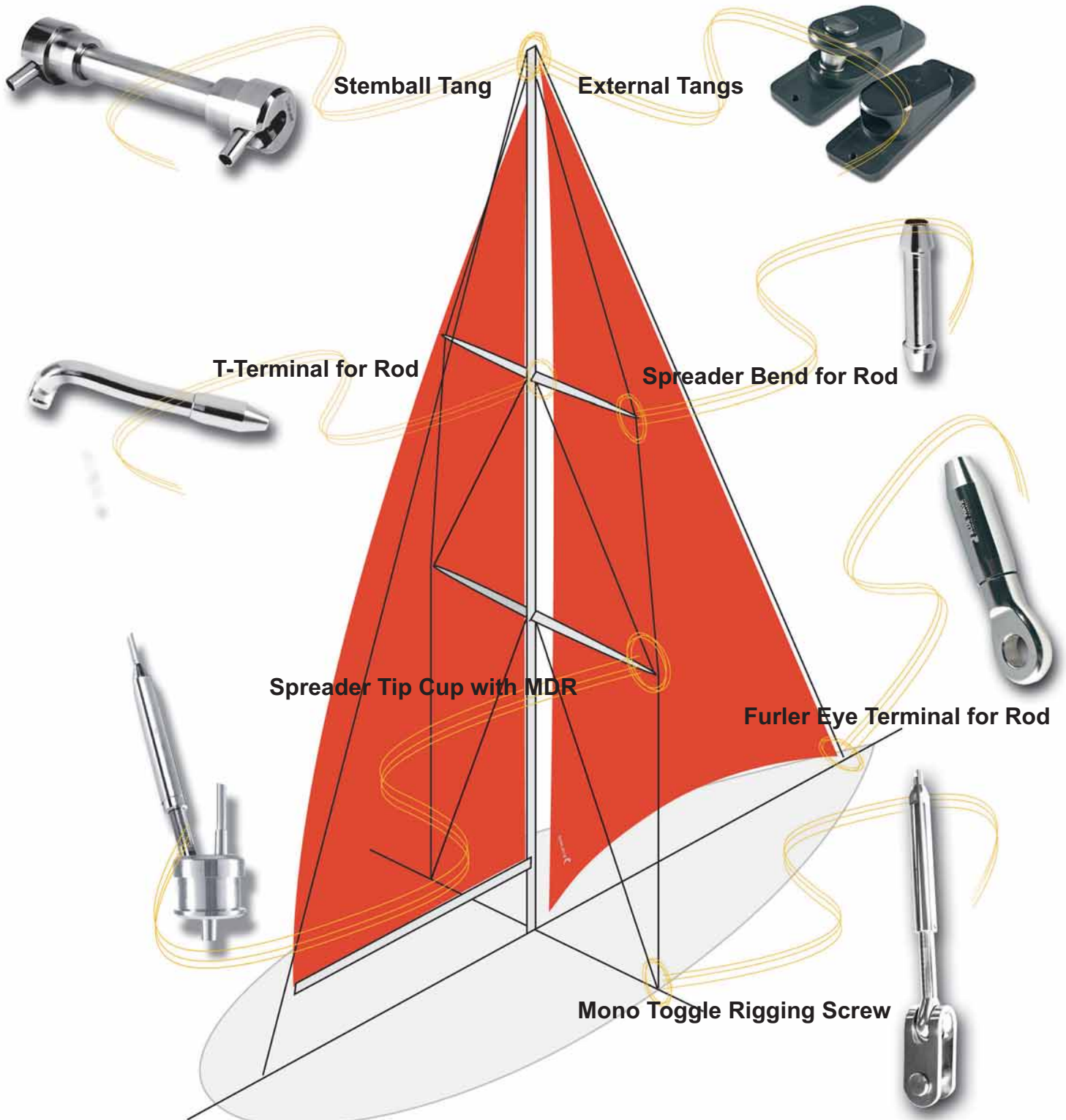
**MARINE**  
RIGGING HARDWARE

## Rod and Rod Rigging Systems

Below is a summary of our rod range and some of its common rig combinations. Ranging from DASH 1 to DASH 60 with treads, from 1/4" to 1 3/8".

All parts are made of stainless acid proof steel and are tested to the recommended break loads. We recommend a calculated working load of no more than 20% of the break load.

NOTE: For your guarantee, and to avoid improper use of our fittings, it is essential that only dies supplied by Blue Wave are used for the cold head pressing.





## Rod Pressing Machine

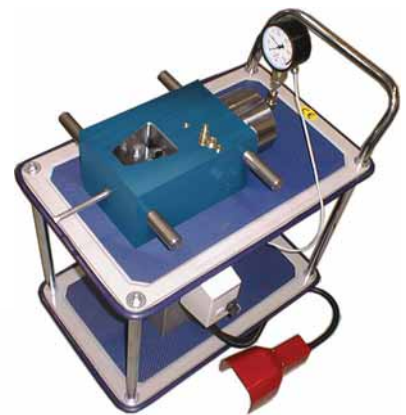
The Principals.

The double acting cylinder applies pressure to two tapered dies through a regulated pressure pipe. The outer piston applies pressure to the tapered dies and locks the rod.

Through the centre piston, pressure up till 260T, is applied to the end of the rod and forms the "head".

The press can be delivered with 3 different hydraulic units.

- Option 1. The HAGG PA 9 is an air hydraulic pump powered by an air compressor. Time for a press cycle is approximately 30 to 50 seconds, depending on rod size.
- Option 2. The HAGG PHS 36 is a two stage hand operated pump, one stage for low pressure and one for high pressure. It takes approximately 5 strokes in low pressure mode, and 50 strokes in high pressure mode to achieve a press cycle
- Option 3. The HAGG HC44/1,5 is a compact hydraulic pump that runs on high voltage electricity, 400V, 50 Hz.  
The compact hydraulic pumps is fitted with a manometer which automatically switches of the the pump when the desired hydraulic pressure level is reached.  
Time for a press cycle is approximately 15 seconds.



For further information on the Blue Wave Rod Press and dies, please contact Blue Wave A/S .

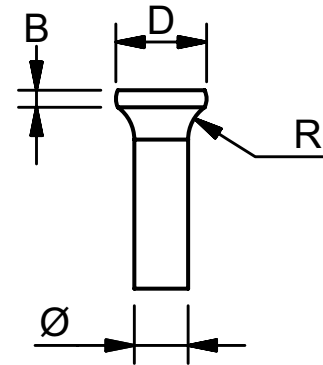
## ROD Press Machines

### ROD Press Machines range

MACHINES	RPT60	RPT260
Max Press capacity (tons) / Rod size (mm) / Dash	60 / 12,7 / - 40	260 / 1" / - 150
Dimensions LxWxH (mm)	200x395x170	660x360x360
Weig ht approx. Depending on pump	100	700
		Inclusive Hydraulic pump
<b>PUMPS</b>		
All pumps are delivered with a quick connector , so it can power other hydraulic operated equipment as Talurit press, Wire Teknik rollerpress, ect.		
<b>RPLFPA9</b> Air hydraulic pump Needs compressed air	✓	N.A.
<b>RPHP36</b> 2 stage, hand operated hydraulic pump	✓	N.A.
<b>RPHC2215</b> Compact hydraulic pump single phase, 230V, 50Hz	✓	N.A.
<b>RPCH4815</b> Hydraulic pump 3 phase, 400V, 50Hz, 3Kw	N.A.	✓
<b>RPV500</b> Work & transport car	On Request	On Request
<b>DIES</b>		
Ranging from 3,0 mm up to 1" rod	min. 5 sets	min. 5 sets
<b>CONDITIONS</b>		
Downpayment 30%		
Delivery: 3 to 4 months depending on the choice of Rod Machine		



**MARINE**  
RIGGING HARDWARE



Mechanical properties for SAF 2205 & SANRIG 80 are shown in the following table.

Type	Diameter mm	Dash	Tolerance (+/- mm)	Breaking load KN	Weight kg/m	Stretch mm/10m
SAF 2205	3	1	0,04	10	0,056	18
	4	3	0,04	17	0,099	18
	4,4	4	0,04	20	0,120	18
	5	6	0,04	28	0,154	18
	5,7	8	0,04	37	0,200	18
	6	9	0,04	40	0,222	18
	6,4	10	0,04	46	0,025	18
	7,0/7,1	12	0,10	56	0,308	18
	7,5	15	0,10	62	0,347	17
	8	16	0,10	70	0,395	17
SANRIG 80	8,4/8,5	17	0,10	76	0,440	17
	9,5	22	0,10	100	0,557	17
	11,1	30	0,10	133	0,760	17
	12,7	40	0,10	160	0,995	16
	14,3	48	-	205	1,250	16
	16,8	60	-	280	1,740	16

ROD Ø	DASH	R	D	B
3,0	1,0	3,0	5,6	1,0
4,0	3,0	3,0	6,2	1,0
4,4	4,0	3,0	7,0	2,0
5,0	6,0	3,0	8,0	2,0
5,7	8,0	3,5	9,0	2,0
6,0	9,0	4,0	9,5	2,0
6,4	10,0	5,0	10,0	2,0
7,1	12,0	5,5	11,0	2,0
7,5	15,0	5,5	12,0	3,0
8,0	16,0	6,0	13,0	3,0
8,4	17,0	6,0	13,5	3,0
9,5	22,0	7,0	16,0	3,0
11,1	30,0	9,0	18,0	4,0
12,7	40,0	10,0	21,0	4,0
14,3	48,0	12,0	23,0	5,0
16,8	60,0	15,0	26,0	5,0

**Modulus of elasticity**

SAF 2205: 200-205 kN / mm<sup>2</sup> - SANRIG 80: 185000 Mpa - Stretch in mm per 10m with load of 25% of min. Breaking strength

## The Knarr

The Knarr was designed by Erling L. Kristofersen in Norway in 1943. Over the next 25 years approx. 150 Knarrs were launched in Norway, and she became the most popular boat of her size. In 1954 she was approved as a national one-design class in Denmark. Today the Knarr fleet numbers approx. 120 boats in Norway, approx. 50 in the USA, and well over 120 in Denmark.

In 2007 the Knarr class association decided to allow the replacement of the traditional wooden mast and boom, with a modern aluminum mast and rig. The task of replacing the wooden masts was granted to Mast building company Hansen & Hamacher. The new rigs were offered with the choice of the best from Blue Waves racing shelves. The QTR handle equipped racing turnbuckle. The MTR calibrated turnbuckle, and the classic open bodied aluminum turnbuckles.

