

**SKF Machine Support**

c/o Machine Support B.V.

Phone : +31 (0)180 483828

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Shipyard / Customer

: Båtbygg AS

Shipname / Project

: Volstad Maritime

Classification society

: Det Norske Veritas

Object

: Gearbox

Make / type

: Wärtsilä SCH 95-SDC58

**Selection of Vibracon SM element****Machine**

Mass (if engine with water +oil)	:	22.000	(kg)
Power	:	6.500	(kW)
Revolutions	:	750	(rpm)
Foundation width (bolt distance)	:	1.150	(mm)
Number of elements	:	15	(-)
Bolthole diameter	:	52	(mm)
Reduction rate	:	5,417	(-)
Average distance of boltholes	:	240	(mm)
Height shaft c.l. / foundation	:	460	(mm)
Propulsion efficiency	:	83	(N/kW)
(For and aft chocks capable of transmitting 3 times nominal propeller thrust must be installed)			
Correction / Safety factor	:	1,25	(-)
Minimum required Vibracon SM-LP-AR	:	42	(-)
<b>Advised Special Vibracon SM-LP-AR4</b>	:	<b>42</b>	<b>(-)</b>
Element load (maximum)	:	127,65	(kN)
Element load (minimum)	:	-98,90	(kN)
Machine load	:	159,56	(kN)

**Calculation of holding down bolts' torque****Foundation stud bolt**

Foundation bolts	:	7 * M48 x 5 (L = 312 mm)	(-)
Material	:	42CrMo4V	(-)
E-modul	:	207000	(N/mm <sup>2</sup> )
Yield stress	:	640	(N/mm <sup>2</sup> )
Elongation foundation stud bolt	:	0,233	(mm)
Tension per bolt	:	427	(kN)
Tensile stress	:	310	(N/mm <sup>2</sup> )
Utilized yield stress	:	48	(%)
Von Mises stress (tensile / torsion)	:	365	(N/mm <sup>2</sup> )
Utilized yield stress < 90 %	:	57	(%)
<b>Tightening torque</b>	:	<b>4100</b>	<b>(Nm)</b>

**Fitted stud bolt**

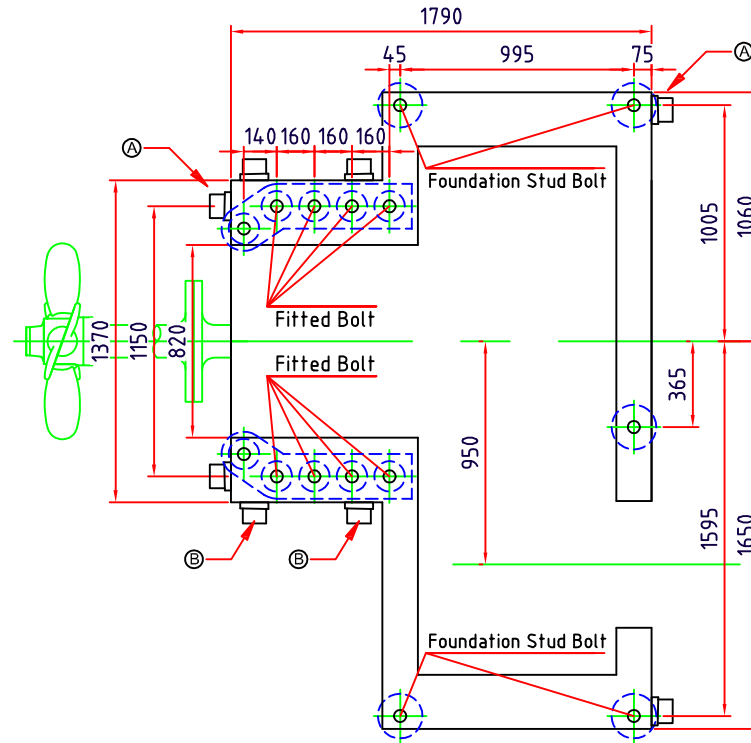
Fitted bolts	:	8 * M48 x 5 (L = 312 mm)	(-)
Material	:	42CrMo4V	(-)
E-modul	:	207000	(N/mm <sup>2</sup> )
Yield stress	:	640	(N/mm <sup>2</sup> )
Elongation of fitted stud bolt	:	0,232	(mm)
Tension per bolt	:	427	(kN)
Tensile stress	:	310	(N/mm <sup>2</sup> )
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Von Mises stress (tensile / torsion)	:	365	(N/mm <sup>2</sup> )
Utilized yield stress < 90%	:	57	(%)
<b>Tightening torque</b>	:	<b>4100</b>	<b>(Nm)</b>

MS REF. NUMBER : N-10-0257-01a JW

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**SKETCH**

Wärtsilä SCH 95-SDC58  
22000 kg



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**PROJECT DATA**

Shipyard / customer : Båtbygg AS  
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Classification society : Det Norske Veritas  
Object : Gearbox  
Make / type : Wärtsilä SCH 95-SDC58

Ⓐ - Collision stopper (with wedge shaped chocks)  
Ⓑ - Steel side stopper (with wedge shaped chocks)  
Stopper clearances in accordance with manufacturer instructions

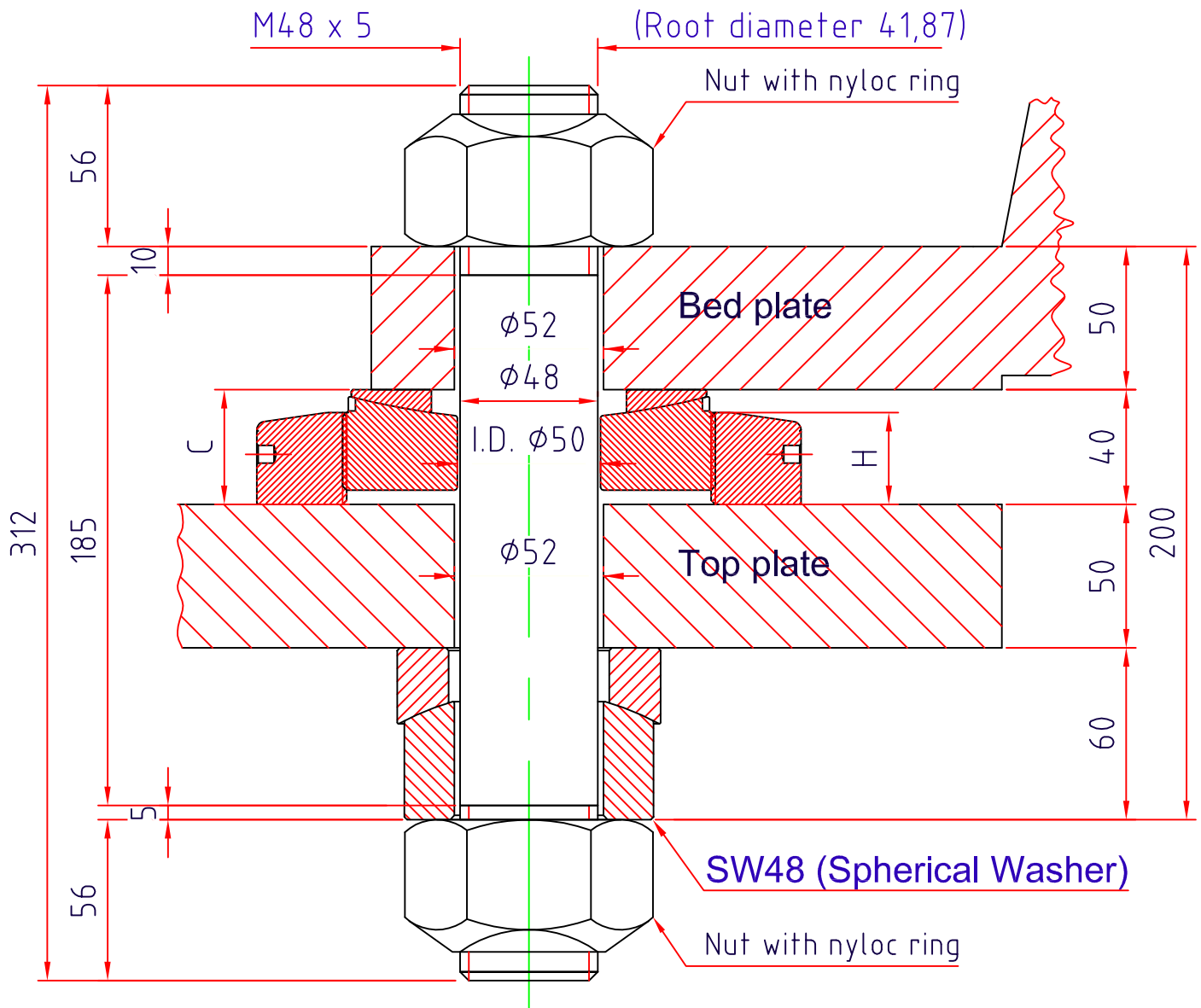
**VIBRACON DATA**

Vibracon Type : SM 42 LP-AR4  
Standard Bottom Ring (H = 32 mm)  
Maximum adjustment : 4 mm  
Minimum height : 38 mm  
Maximum height : 42 mm

Note: Reduced Adjustment Range

**APPROVAL**

SKETCH



C - Not to exceed 42 mm

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**FOUNDATION STUD BOLT**

**APPROVAL**

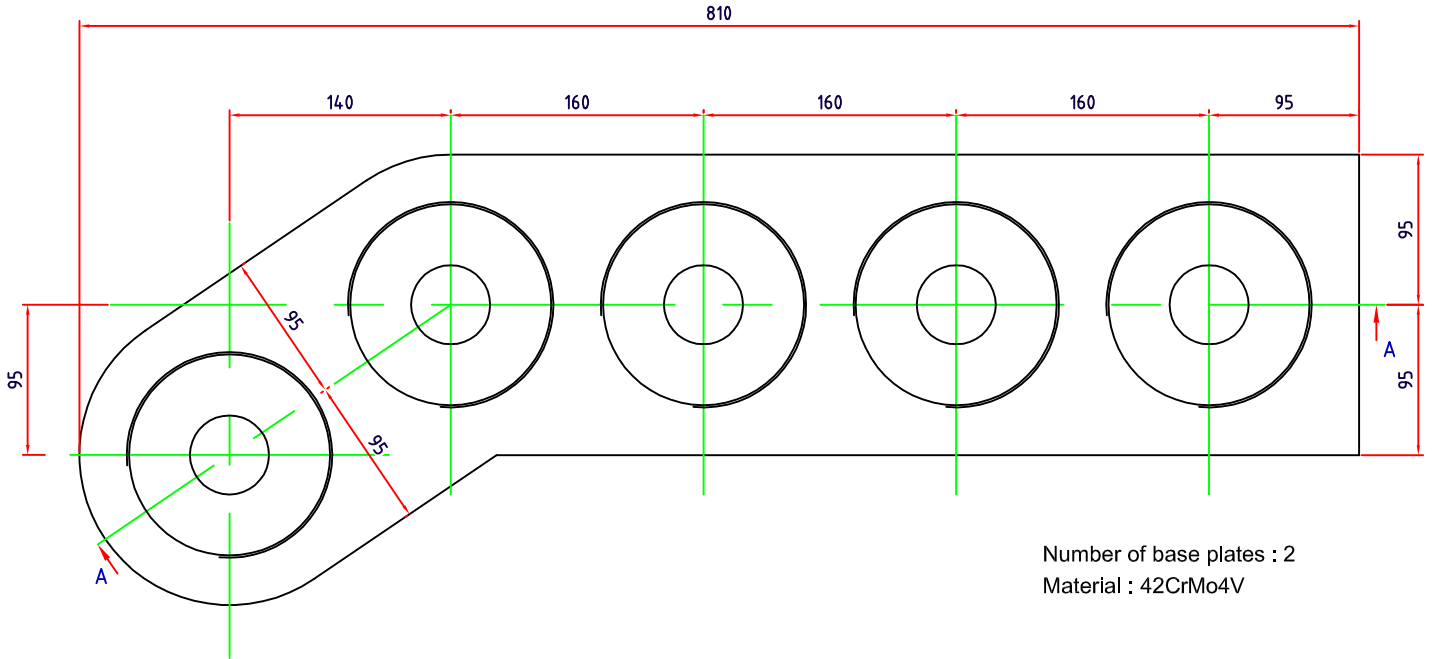
Bolt material	: 42CrMo4V
Yield strength	: 640 N/mm <sup>2</sup>
Size of foundation bolt	: 7 * M48 x 5 (L = 312 mm)
Stretch	: 0,23 mm
Tightening torque	: 4100 Nm
Shipyard / customer	: Båtbygg AS
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Classification society	: Det Norske Veritas
Object	: Gearbox
Make / type	: Wärtsilä SCH 95-SDC58

Calculations are valid for bolts with ISO Metric screw thread and coarse pitch, minimum material grade 8.8, yield strength > 630 N/mm<sup>2</sup>, oil lubricated thread courses and nut mating surfaces without slide additives.

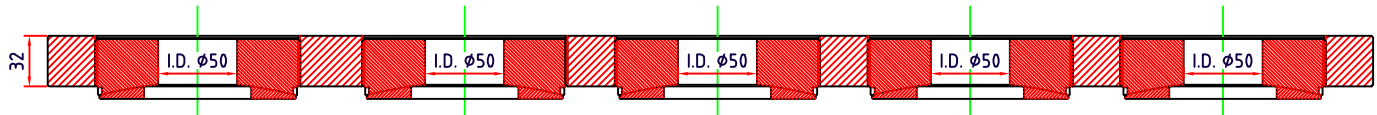


**SKETCH**

Base Plate with SM42LP Center Plate and Top Plate



**SECTION A-A**



MS REF NUMBER: N-10-0257-01a JW	<b>BASE PLATE + Center &amp; Top Plate</b>	<b>APPROVAL</b>
	Bolt material : 42CrMo4V Yield strength : 640 N/mm <sup>2</sup> Size of fitted bolt : Stretch : Tightening torque : Shipyard / customer : Båtbygg AS Shipname / project : Volstad Maritime Classification society : Det Norske Veritas Object : Gearbox Make / type : Wärtsilä SCH 95-SDC58	

Calculations are valid for bolts with ISO Metric screw thread and coarse pitch, minimum material grade 8.8, yield strength > 630 N/mm<sup>2</sup>, oil lubricated thread courses and nut mating surfaces without slide additives