



SUMMIT SERIES

Vertical multi-stage pumps

VMS 10 - 20 Series Assembly Procedures

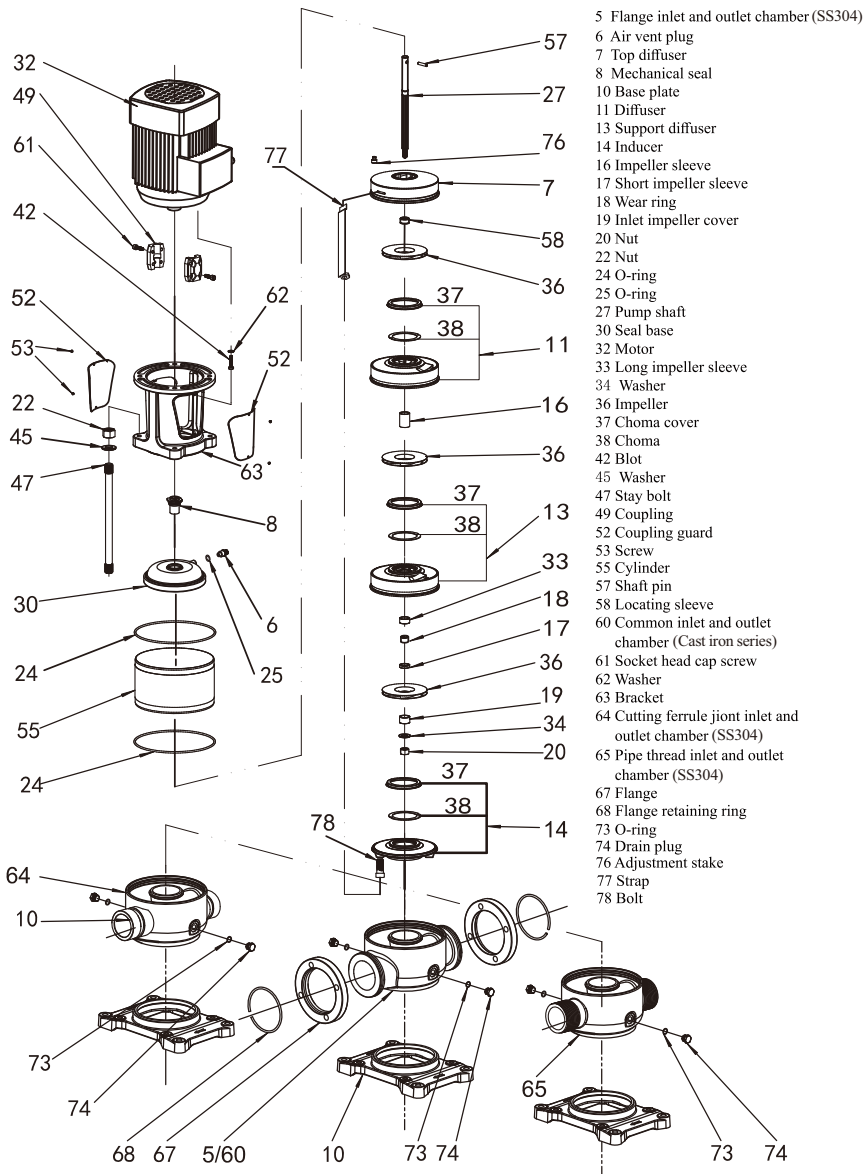
WATER SUPPLY • INDUSTRIAL BOOSTING • INDUSTRIAL LIQUID TRANSFER • WATER TREATMENT • IRRIGATION

BIANCO **NXT**

pumps


Summit Series VMS pump assembly tools

	Tool name	Tool specification	Application	Where to use it	Remarks	Tool picture
1	Rubber hammer		All models	Knock the seal base to make it tighter if necessary		
2	Double offset ring spanners	10mm	M6	For nuts #22 and Bolts #42 & #80		
		14mm	M8			
		17mm	M10			
		19mm	M12			
		22mm	M14			
		24mm	M16	For nuts #6 & #74		
3	Allen keys	2.5mm	For mechanical seal screw VMS 1-20	Mechanical Seal retaining screws Loosening and tightening of the shaft coupling		
		3mm	For mechanical seal screw VMS 32-90			
		5mm	M6			
		6mm	M8			
		8mm	M10			
4	Phillips screwdriver		M4	Coupling guard retaining screws		
			M5			
5	Open spanner	12mm Across Face	NJK12 (VMS 1-5)	For mechanical seal.		
		16mm Across Face	NJK16 (VMS 10-20)			
6	Jig	Assembly Jig #1	VMS 1-5	Shaft support.		
		Assembly Jig #2	VMS 10-20	Shaft support.		



Exploded view VMS Series 10 - 20

SUMMIT VMS Series 10/15/20 components list

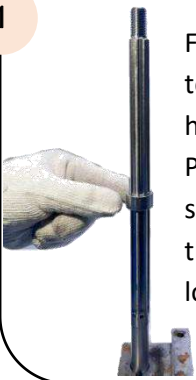
No.	Name	Photo	No.	Name	Photo
5	Inlet & outlet chamber		17	Short impeller sleeve	
6	Air vent		18	Wear ring	
7	Top diffuser		19	Inlet impeller cover	
8	Mechanical seal		20	Nut	
10	Base plate for flange connection		22	Nut	
11	Diffuser		24 / 25	O ring	
13	Support diffuser		25 73	O ring	
14	Inducer		27	Shaft	
16	Impeller sleeve		30	Seal base	

SUMMIT VMS Series 10/15/20 components list

No.	Name	Photo	No.	Name	Photo
32	Motor		55	Cylinder	
33	Long impeller sleeve		57	Shaft pin	
34 45 62	Washer		58	Locating sleeve	
36	Impeller		61 78	Socket Head Cap Screw	
42	Bolt		63	Bracket	
47	Staybolt		64	Cutting ferrule joint inlet and outlet chamber	
49	Coupling		67	Flange	
52	Coupling guard		68	Retaining ring	
53	Screw		74	Drain plug	

Stack assembly

1



Fit the shaft (#27) to the shaft holder jig. Press the locating sleeve (#58) onto the shaft and the locating circlip

2



Install the impeller (#36) diffuser (#11) and impeller sleeve (#16) in sequence. The impeller should rotate freely.

3



Repeat step 2 according to the pump stack distribution diagram on the previous page

4



The sleeve in the support diffuser (#13) is a combination of short impeller sleeve (N#17), long impeller sleeve (#33) and wear ring (#18). Note that the wear ring is in full contact with the supporting parts in support diffuser.

5



After placing the last impeller, install the inlet impeller cover (#19) and tighten the nut (#20).

6



Tighten the nut (#20) with a torque wrench, 75 ± 5 Nm.

7



Top diffuser (#7) Inducer (#14)



Install the top diffuser and the inducer. The left is the top diffuser, and the right is the inducer

8



Install the strap (#77) and tighten the cap screw (#78) 25 ± 5 Nm. Pull the shaft (#27) back and forth to ensure that there is clearance between the impeller (#36) and the diffuser (#11). The upper and lower impellers should have similar clearance.

Pump Body Assembly Part A

1



Place the base plate (#10)

2



Install inlet & outlet chamber (#5) on base plate (#10)

Note that the direction of inlet & outlet chamber and the arrow direction of the shaft are the direction of the water flow

3



Spray vegetable oil on to the inlet & outlet chamber (#10) and the O-ring (#24) Stretch the O-ring, place into the inlet & outlet chamber (#10) recess

4



Place O-rings (#25 & #73) onto the drain plug (#74) Install the drainage nut (#74) in the inlet / outlet chamber (#60) and tighten

5



Lower and press the cylinder (#55) firmly into place
Take care not to damage the O ring.

6



Lower the stack onto inlet / outlet chamber (#60).

7



Install four stay bolts (#47). Do not expose thread to the base plate more than 2 mm

8



Install the four adjustment stakes (#76) on the seal base (#30).

9



Spray vegetable oil on to the seal base (#30) and place the O-ring (#24) into the recess

10



Lower and fully press the seal base (#30) onto the cylinder (#55) taking care not to damage the O-ring

11



Place the bracket (#63) on to the seal base (#30) then adjust the orientation. Install washers (#45) and nuts (#22) and tighten them evenly. 100 ± 5 Nm. The exposed thread at the upper end of the stay bolt (#47) shall not exceed 1mm

Pump Body Assembly Part B

12



Place O-ring (#25) on air vent nut (#6). Install the air vent nut (No.6) and tighten it

13



Gently press the mechanical seal (#8) onto the shaft (#27) and into the seal base. Then hand tighten mechanical seal

14



Tighten the three set screws on the mechanical seal with a 2.5mm allen key. Tighten mechanical seal $35 \pm 2 \text{Nm}$.

15



Lift the pump shaft (#27) up and plug in the mechanical seal spacer 'gasket'

16



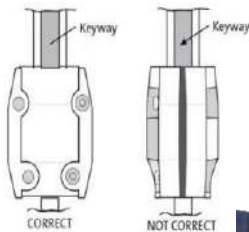
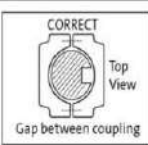
Use the lifting device to lift the motor (#32) and place it on the bracket (#63) Tighten bolts as below :
 $\leq 7.5 \text{kW}$, just need to tighten bolt (#42)
 $\geq 11 \text{kW}$, need to tighten the bolt (#42) and washer (#62)

17



Install shaft pin (#57).

18



Ensure the gap between the two coupling halves is even.



Fit the coupling (#49)
Tighten the cap screws (#61)

Torque requirements:
M6: 18-20Nm
M8: 40-45Nm
M10: 80-85Nm.

Remove the mechanical seal spacer and rotate the coupling to check the assembly rotates freely

19



Install the coupling guard (#52) on the bracket (#63) and tighten the screws (#53)



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