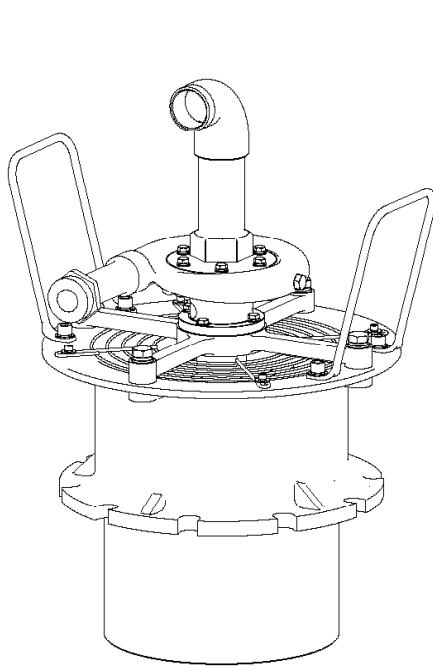
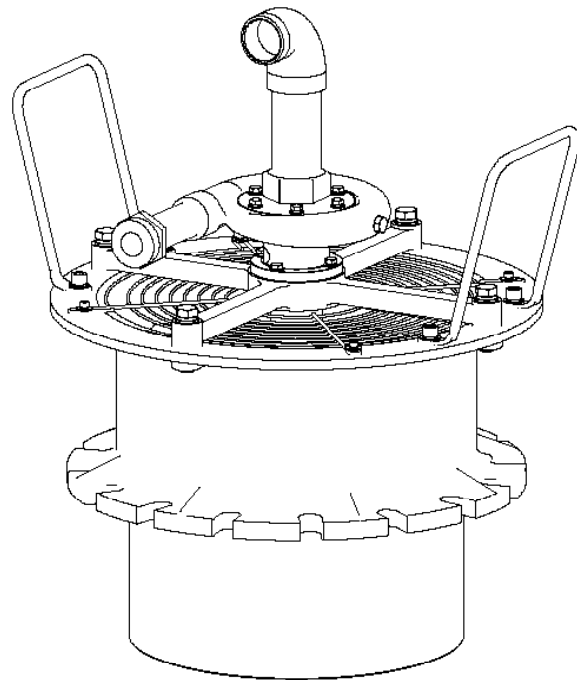


Operation and Maintenance Guide



WTF - 300



WTF - 400

Models	Descriptions	IMPA Number
WTF-300	Water driven turbine fan, 300mm diameter	59 14 36
WTF-400	Water driven turbine fan, 400mm diameter	59 14 37

Read this manual carefully before installing, operating or servicing this equipment. It's the responsibility of the employer to ensure this manual is read by the operator. Please preserve this manual.

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Introduction

Teryair Water Driven Gas Freeing Fan are designed for ventilation of gases from large enclosed areas or other tank openings. They work effectively, providing penetration deep into the tank ensuring complete ventilation. Our fans are made of a non spark construction with a stainless steel 316 impeller and integral water motor. The components are manufactured from corrosion proof material.

Technical Data

Product Reference	WTF-300	WTF-400
IMPA Code	59 14 36	59 14 37
Outlet Bore diameter in mm	300	400
Air Flow Max.	220 m ³ /min	290 m ³ /min
Recommended Water Pressure	7 kg/cm ²	7 kg/cm ²
Water consumption	40m ³ /hr	50m ³ /hr
Recommended Water Hose size	50A	50A
Water inlet and outlet conn.	50A	50A
Weight in Kgs	32	42

Intended And Prohibitive Use

Intended Use

Teryair Water Driven Turbine Fans are ideal for releasing gases from tanks.

The ships water line is connected through standard 50A connections.

This product have wide applicability, and are ideal for expelling poisonous or other harmful gases from enclosed areas such as tanks, holds etc.

Prohibitive use

Use by an underage, untrained person.

Use with non genuine spare parts or accessories is prohibited

Safety Instructions

Following symbols are used through out this manual.

Warning

If not followed could cause personal injuries

Caution

If not followed could result in damage to equipment.

Warning

This manual must be read and the operating instructions carefully followed.

Warning.

Operators under 18 not allowed to operate this Vane motor operators must be made familiar with the instructions in this manual before attempting to operate the Vane motor Ensure that job site is clear of bystanders. Do Not dis-assemble in explosive atmosphere.

Caution

Use only genuine Teryair or Teryair approved accessories.

Warning

Safety and protective clothing, eyewear, head-gear, ear protection, gloves and footwear to be worn during operation of this equipment. The equipment must never be operated without the safety grill in place.

Warning

This equipment is not designed for use in an explosive environment.

Safety checks before and after operating the fan

- Check list before starting the fan
- Check safety wear mentioned earlier in Operating and Safety precautions.
- Check Hose fittings are secure
- Do not wear loose clothing etc around the fan.
- Make sure the safety grill is secure on the fan.
- Connect supply and exit hoses correctly.
- Place the fan as desired and turn on water supply gradually.

Operating instructions

Un packing

Identify all the components as below, contact your supplier if any parts are missing or damaged.

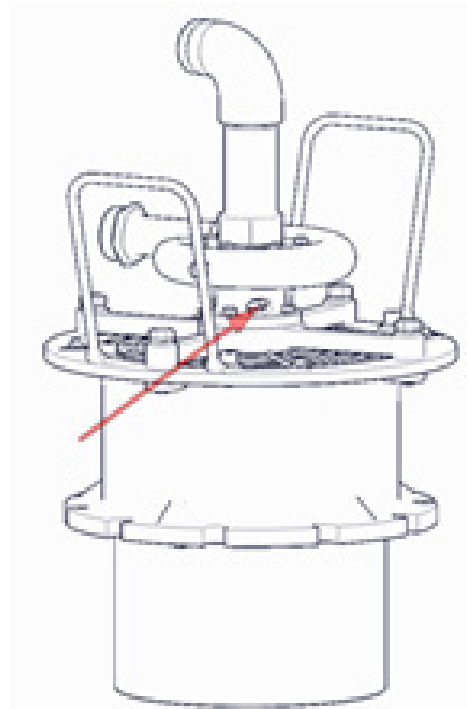
This illustration is for identification only.



1. Factory assembled unit main product casing, water turbine motor, turbine fan impeller, 4 bolts and 4 washers for handle fitment and protective grill.
2. Handle, 2 nos.
3. 2" BSP (F) x 2" BSP (M) Elbow- 90°, 1 no.
4. 2" BSP (M) x 1-1/4" BSP (M) Inlet Pipe, 1 no.
5. 2" BSP (F) x 2" BSP (M) Outlet Pipe, 1 no.
6. Adaptor 1 No.

Installation Instructions

- Invert the motor assembly (1) and locate the collar of Adaptor (6) in the step. Match the holes of Adaptor (6) with thread of casing and fit it with Bolt , spring washer and plain washer.
- Now invert it back in original position. Now fit the Outlet pipe (5) along with elbow (3) as shown in figure.
- Now fit the inlet (4). Make sure the connection is leak proof.
- Now fix the handles respectively with Bolt , spring washer and plain washer.



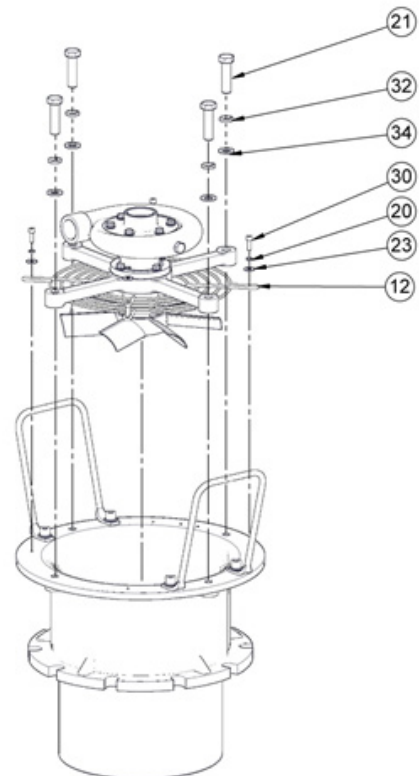
Disassembly and Re-assembly

Shut off water supply and allow residual Pressure to bleed off.

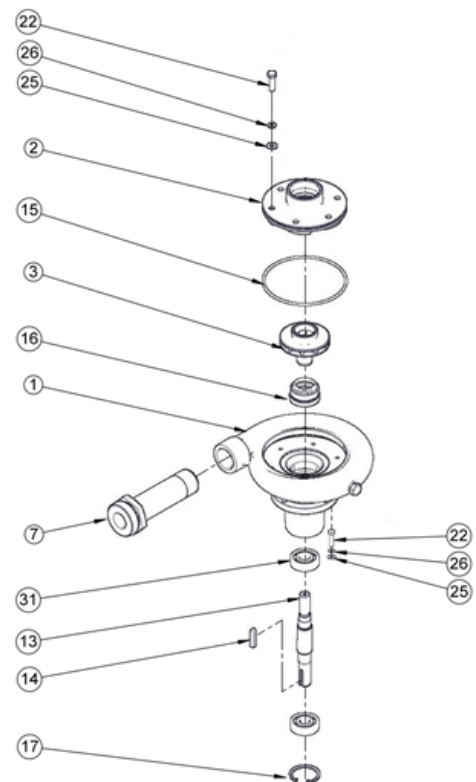
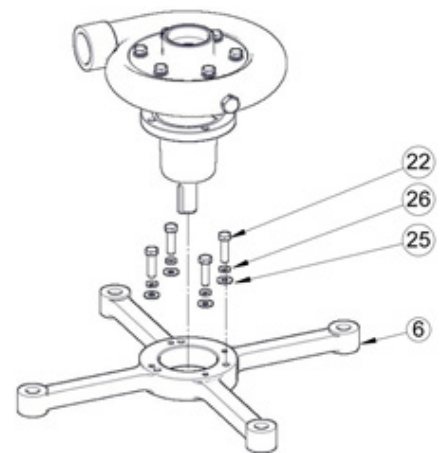
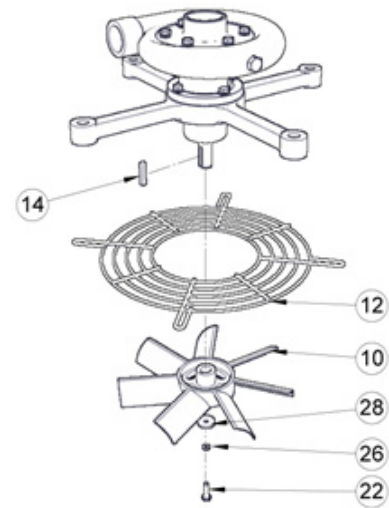
Disconnect water supply

Disconnect Inlet and outlet pipe.

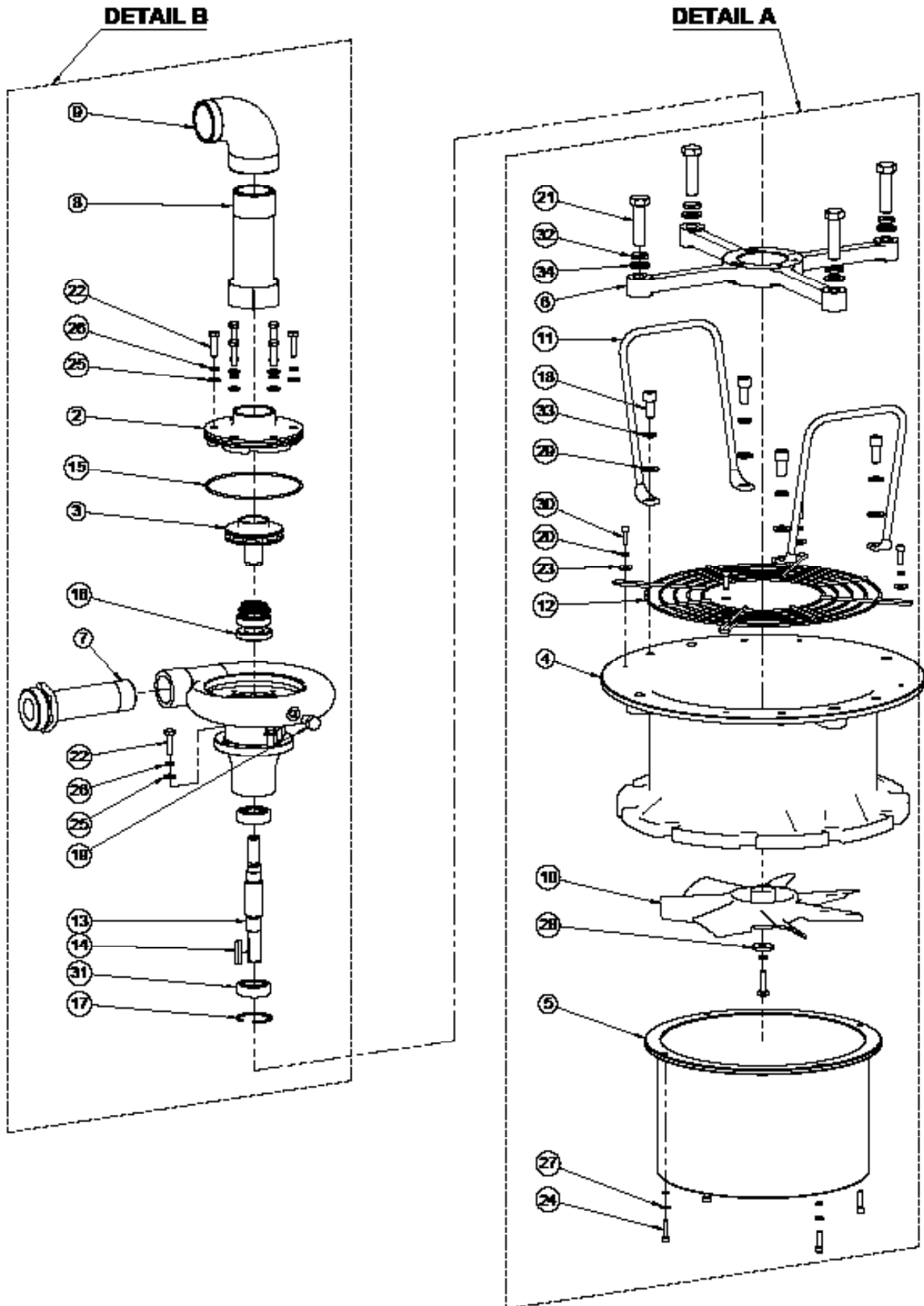
- Unscrew the Inlet (7), Outlet (8) and Elbow (9). (Refer Detail B)
- Unscrew all the 4 Allen Bolts (30), Spring Washers (20) and Plain Washers (23) from Casing (4). It will loosen the Grill (12). (Refer Detail A)
- Now unscrew Hex Bolts (21), Spring Washers (32) and Plain washers (34) and lift the fan assembly with the Motor Frame (6) and Grill (12).
- Hold the Turbine Fan (10) and unscrew Allen Bolts (22), Spring Washer (26), Plain Washer (28) respectively and re-



- place it with new one. (If found damaged)
- e. Now tap the back of the Turbine fan (10) gently to remove it.
- f. Now remove the Grill (12). Secure the key (14) and replace it with new one and store it properly. (If found damaged)
- g. Unscrew Allen Bolts (22), Spring Washers (26), and Plain Washers (25) used to assemble Impeller Housing (1) and Motor frame (6).
- h. Now tap the Motor frame (6) gently to remove it from the motor assembly.
- i. Now unscrew Allen Bolts (22), Spring Washers (26), and Plain Washers (25) used to assemble Pelton Wheel (2) and Impeller Housing (1) and replace them with new one if found damaged. (Refer Detail B)
- j. Now remove Pelton Wheel (2) along with O-ring (15) from Pelton Wheel (2) and replace them with new one. (If found damaged)
- k. Now remove Internal Circlip (17) from other end and replace it with new one. (If found damaged)
- l. Tap Shaft (13) with the help of a plastic rod from the back of the impeller (3). As the Shaft (13) moves it will push Ball Bearing (31) from other end of the Impeller Housing (1). Now remove other Ball bearing (31) also from Impeller Housing (1) and replace with new ones. (If found worn-out)
- m. Now remove Impeller (1) and Mechanical Seal (16) from Impeller Housing (1) and replace it with new one. (If found damaged)
- n. Now unscrew Hex Bolt (19) from Impeller Housing (1) and replace it with new one. (If found damaged)
- o. Now follow the above steps in reverse manner to assemble the Water Turbine Fan.

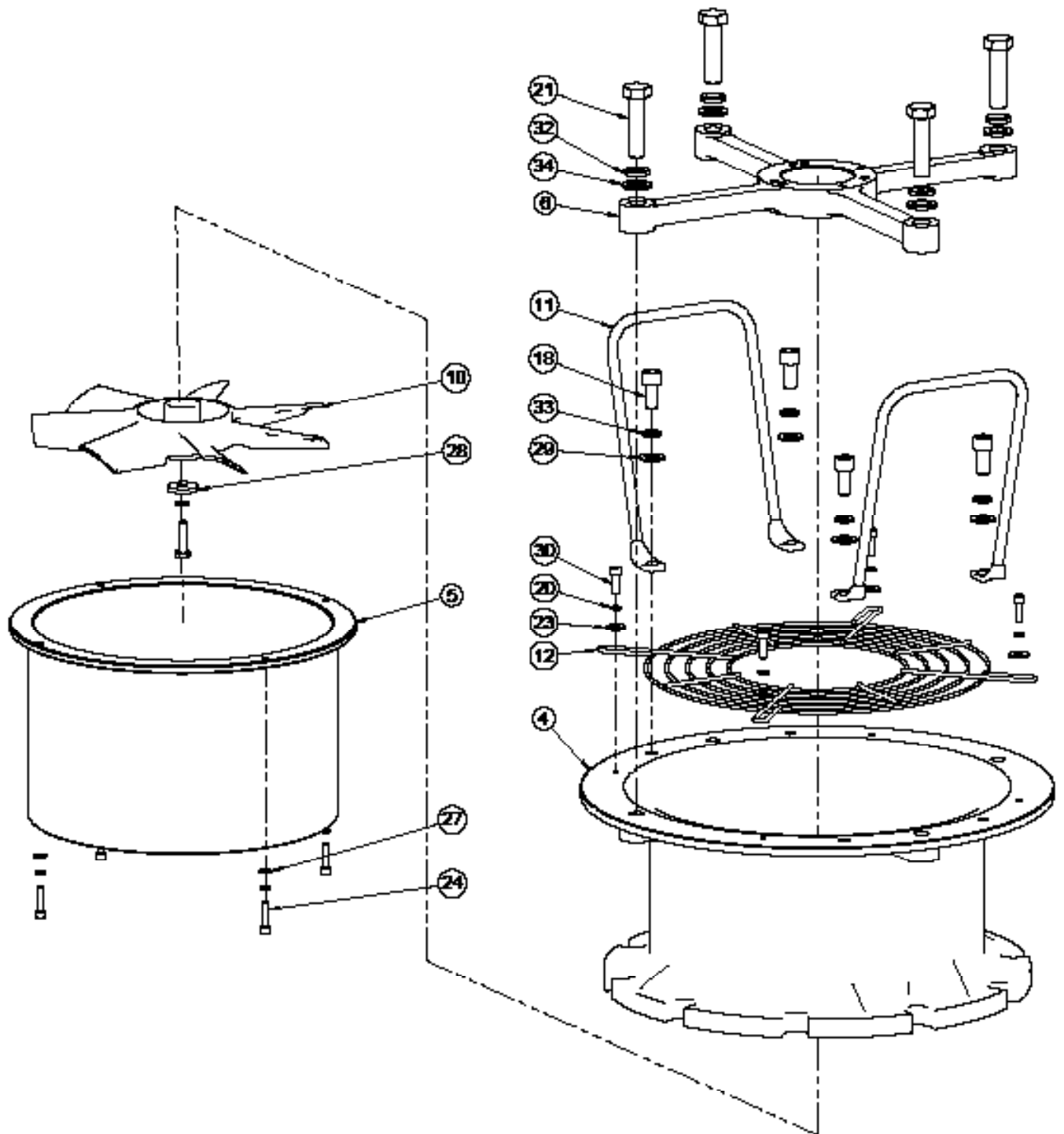


Exploded View for WTF-300 / WTF-400



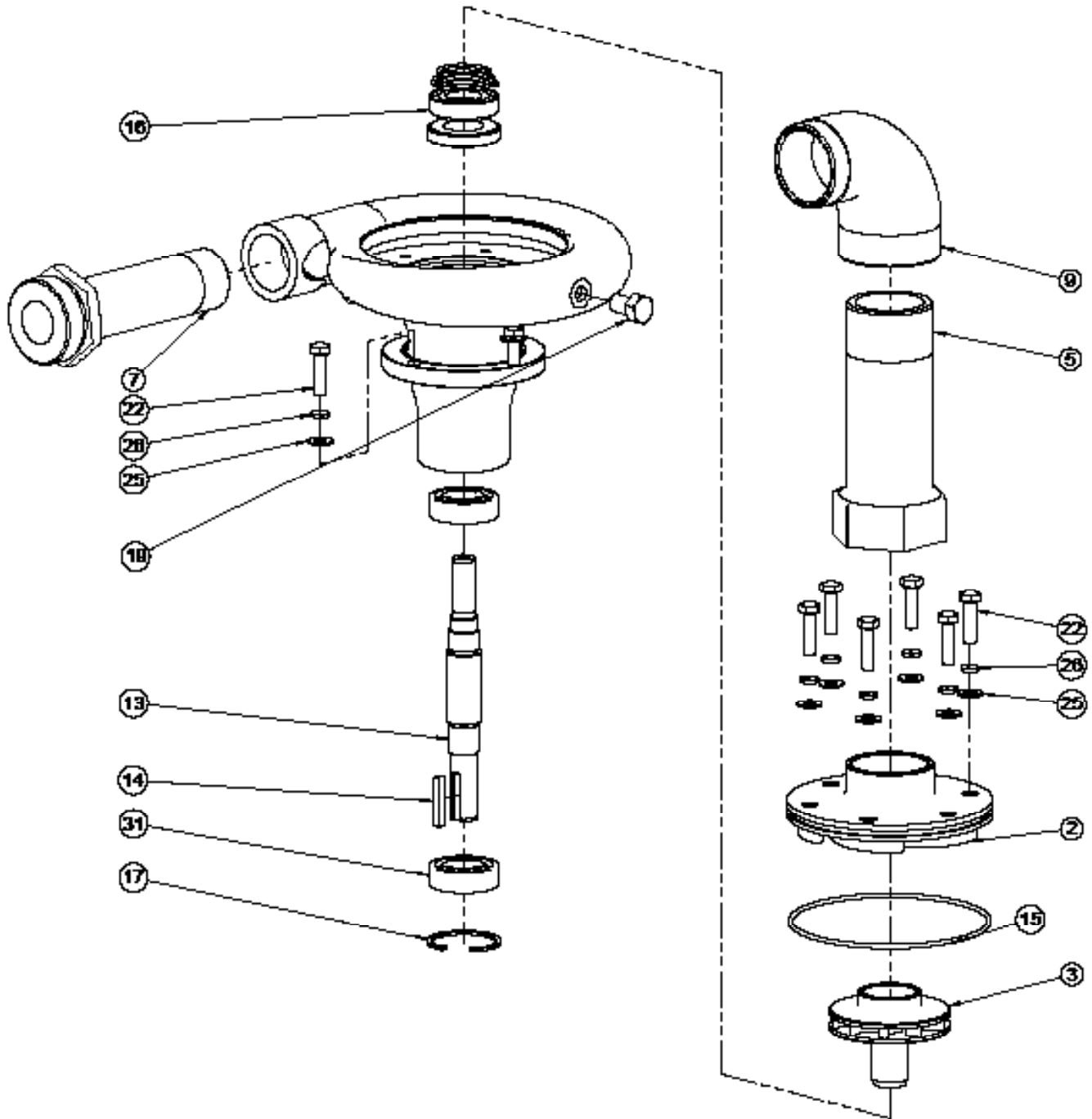
Exploded View Detail-A for WTF - 300 & WTF - 400

DETAIL A



Exploded View Detail-B for WTF - 300 & WTF - 400

DETAIL B



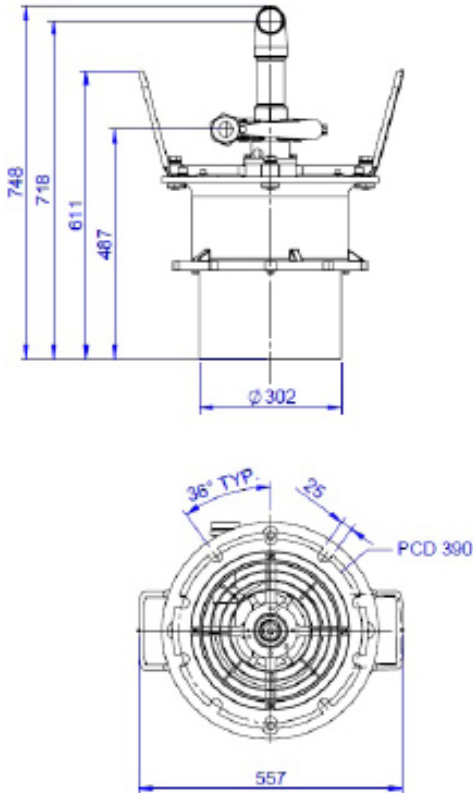
Bill of Materials for WTF-300 / WTF-400

Sr. No	Description	Part Number	WTF-300	WTF-400
1	IMPELLER HOUSING FOR WTF	536 07 03	1	1
2	PELTON WHEEL FOR WTF	536 07 01	1	1
3	IMPELLER FOR WTF	536 07 02	1	1
4	CASING FOR WTF300	536 10 01	1	-
4	CASING FOR WTF400	537 10 01	-	1
5	ADAPTOR FOR WTF300	536 10 02	1	-
5	ADAPTOR FOR WTF400	537 10 02	-	1
6	MOTOR FRAME FOR WTF300	536 10 03	1	-
6	MOTOR FRAME FOR WTF400	537 10 03	-	1
7	INLET FOR WTF	536 10 04	1	1
8	OUTLET FOR WTF	536 10 05	1	1
9	ELBOW FOR WTF	536 10 06	1	1
10	TURBINE FAN FOR WTF300	536 10 07	1	-
10	TURBINE FAN FOR WTF400	537 10 04	-	1
11	HANDLE FOR WTF300	536 21 01	2	-
11	HANDLE FOR WTF400	537 21 01	-	2
12	GRILLER FOR WTF300	536 21 02	1	-
12	GRILLER FOR WTF400	537 21 02	-	1
13	SHAFT FOR WTF	536 21 03	1	1
14	KEY FOR TURBINE FAN	536 31 01	1	1
15	O' RING	536 40 01	1	1

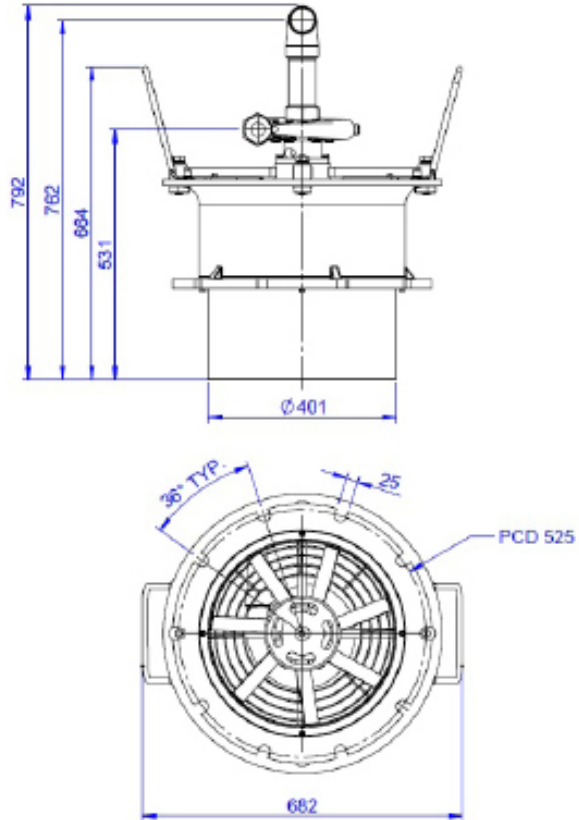
Sr. No	Description	Part Number	WTF-300	WTF-400
16	MACHANICAL SEAL KRB-ST	536 40 02	1	1
17	INT. CIRCLIP	536 90 01	1	1
18	ALLEN BOLT	536 90 02	4	4
19	HEX BOLT	536 90 03	1	1
20	SPRING WASHER	536 90 04	8	8
21	HEX BOLT	536 90 05	4	4
22	HEX BOLT	536 90 06	11	11
23	PLAIN WASHER	536 90 07	4	4
24	ALLEN BOLT	500 90 41	4	4
25	PLAIN WASHER	171 90 50	10	10
26	SPRING WASHER	199 90 47	11	11
27	PLAIN WASHER	298 00 90	4	4
28	PLAIN WASHER.	311 90 11	1	1
29	PLAIN WASHER	342 90 24	4	4
30	ALLEN BOLT	804 90 03	4	4
31	BALL BRG.	550 50 49S	2	2
32	SPRING WASHER	591 90 05	4	4
33	SPRING WASHER	653 90 04	4	4
34	PLAIN WASHER	671 90 06	4	4

Dimensional Data

WTF-300



WTF-400



Repair Kits For WTF-300 & WTF-400

Illu. No.	Part No.	Description	5369703
1	1999047	SPRING WASHER	10
2	1719050	PLAIN WASHER	10
3	5362103	SHAFT FOR WTF	1
4	5363101	KEY FOR TURBINE FAN	1
5	5364001	'O' Ring	1
6	5364002	MACHANICAL SEAL KRB-ST	1
7	5369001	INT. CIRCLIP	1
8	5369003	HEX BOLT	1
9	5369006	HEX BOLT	10
10	5360701	PELTON WHEEL FOR WTF	1
11	5360702	IMPELLER FOR WTF	1
12	5505049S	BALL BRG.	2

EU DECLARATION OF CONFORMITY

We hereby certify that the Listed Product stipulated below comply with all relevant provisions of the machinery directive (2006/42/EC) and the national laws and regulations adopting this directive.

Description : Water Turbine Fan

Model Number : WTF Series

Is in conformity with the provisions of the following European Directives: (2006/42/EC) Machinery Safety and Harmonized standards

ISO 12100-1: 2010: Safety of Machinery –general Principles for Design –Risk Assessment and Risk Reduction.

Registered Office : 416 Gundecha Industrial Complex, Akuril Road,
Kandivali East, Mumbai – 400101, Maharashtra, India.

Web site : www.teryair.com

Works : A-1, Tirupati Udyog Nagar, Sativali Road, Vasai East,
Palghar – 401208, Maharashtra, India.

CE certification registration no – C E 16831

Issued by – BMQR Certifications Pvt Ltd.
www.cemarking-india.com

Valid Till – 03/11/2025

Signed for and on behalf of


TERYAIR EQUIPMENT PVT. LTD.

Place of Issue : Vasai



Warranty Certificate

Every product manufactured by Teryair
is built to meet the highest standards of quality.

Teryair warrants that the Products, accessories and parts manufactured or supplied by the company be free from defects in material and workmanship for a period of six months from date of Teryair authorized dealer invoice to customer, or one year from date of Teryair invoice to dealer, whichever is earlier. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of Teryair products and parts is beyond our control, Teryair cannot guarantee the suitability of any product or part for a particular application and Teryair shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Teryair does not warranty bought out products or components such as electric motors and hardware but will assist in directing warranty queries to the dealer/manufacturer responsible. Teryair responsibility is limited solely to replacement or repair of defective Teryair products or components.

Dealer/End User shall have no right or remedy and Teryair shall have no liability or obligation under the warranty, if: (i) a Product is altered, changed, modified or tampered with in any way; (ii) a Product is damaged after deposit with the transporter for shipment; (iii) a Product is not properly preserved, packaged, stored, processed or handled after receipt; (iv) a Product is not used and maintained in accordance with Teryair's recommended operating and maintenance manuals, instructions and procedures, if any; (v) a Product is not properly incorporated or installed in, or not properly combined with, an Other Product; (vi) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, a failure, substandard performance or other issue with another product, material, component or part not supplied by Teryair; (vii) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, compliance with any design, specification or other specific requirement of Dealer/End User; (viii) a Product is used in a manner, with a substance or for a purpose other than the normal manner, substance and purpose for which it is intended or is otherwise subjected to abnormal use or service; (ix) a Product is subjected to a power surge, brown out or other similar occurrence; (x) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, normal wear and tear of such Product (including, without limitation, things such as worn seals, diaphragms, balls, O rings, gaskets, chisels, cutters, hoses and other such wearing components); (xi) the issue with a Product is directly or indirectly.

Model Number : WTF Series

A handwritten signature in blue ink, appearing to read "M Yadav", is written over a horizontal line.

M Yadav, Q.A. Manager
(Company Seal)

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