Base Load Power Hub (BLPH)

AIR RELEASE VALVES

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1. PURPOSE

SCOPE

The scope of this procedure is to carry out hydraulic testing in compliance with the ASME B16.34 Last Ed., API 598 Last Ed., API 6D Last Ed., AWWA C512 Last Ed., by using rust water.

2 TESTING PERCENTAGE

2.1 Unless agreed with customer, the percentage of pieces tested for each item will be:
100% for casted pieces,
100% for welded pieces.

2.2 The tested pieces not OK shall be replaced.

3 HYDRAULIC TESTS PROCEDURES

The air release/vacuum valve is subject to hydrostatic testings: shell and seat test.

Preliminary requirements for Shell test:

The air release/vacuum valve shall be assembled without the internal parts.
Protective coatings, such as paint, shall not be applied to any air release/vacuum valve surface before pressure tests are completed.

1 ST Step) The water is used as test fluid, its maximum chloride content shall be 30 ppm (mg/kg) and the pH shall be within the range 6 to 8.
2 ND Step) The pressure is increased by a pneumatic pump.
3 RD Step) Visual inspection to defect leakage, if any, while the particular is water pressure.
4 TH Step) Immediately after hydrostatic test, the air release/vacuum valve shall be drained and then completely dried using compressed air and soft cloths, a visual checking will be performed.

- Instrument and gauges used for testing shall be calibrate prior the test.
- Minimum stabilization period before testing: 60 sec.
- Testing time: 15 sec. for size (NPS) < = 2" according to API 598 tab. 4
  60 sec. for size (NPS) 2.1/2"÷6" according to API 598 tab. 4
  120 sec. for size (NPS) 8"÷12" according to API 598 tab. 4
  300 sec. for size (NPS) >= 14" according to API 598 tab. 4

- Hydraulic shall testing will be satisfactory where no leakage (0%) is detected
- Test pressure values are given in Table 1 of this procedure.

4 HYDROSTATIC SHALL TESTING VALUES

See Table 1 for Air release/vacuum valve

TABLE 1				
Air Release/Vacuum Valve				
Item Description	Tag nr	Material	Design Pressure [barg]	Body Pressure Test [barg]
Air Release/Vacuum Valve	SP-0043	ASTM A182 F55	7.6	11.4
Air Release/Vacuum Valve	SP-0044	ASTM A182 F55	7.6	11.4

Preliminary requirements for the Seat test:

The air release/vacuum valve shall be assembled with the internal parts.
Protective coatings, such as paint, shall not be applied to any air release/vacuum valve surface before pressure tests are completed.
All areas shall be clean and free from any trace of oil, grease or dirt.

1 ST Step) The water is used as test fluid, its maximum chloride content shall be 30 ppm (mg/kg) and the pH shall be within the range 6 to 8.
2 ND Step) The pressure is increased by a pneumatic pump.
3 RD Step) Visual inspection to defect leakage, if any, while the particular is water pressure.

- Instrument and gauges used for testing shall be calibrate prior the test.
- Minimum stabilization period before testing: 60 sec.

Testing time: 2 min. for size (NPS) ¼" to 4" according to API 6D tab. 11
5 min. for size (NPS) >= 6" according to API 6D tab. 11

- Hydraulic seat testing will be satisfactory where no leakage (0%) is detected

Test pressure values are given in Table 2 of this procedure.

5 HYDROSTATIC SEAT TESTING VALUES

See Table 2 for Air release/vacuum valve

TABLE 2				
Air Release/Vacuum Valve				
Item Description	Tag nr	Material	Design Pressure [barg]	Body Pressure Test [barg]
Air Release/Vacuum Valve	SP-0043	ASTM A182 F55	7.6	8.4
Air Release/Vacuum Valve	SP-0044	ASTM A182 F55	7.6	8.4

6 CERTIFICATION

The quality control department will issue a test certificate that is controlled and signed by the quality control manager.
Test certificate to be attached (see ANNEX 1).

ANNEX 1 – EXAMPLE OF FINAL ACCEPTANCE TEST

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CERTIFICATE FOR FINAL ACCEPTANCE TEST OF	DOC. N.:
COMBINATION AIR VALVE	
DRAWING/Disegno: QUANTITY/Quantità: Item:	Date: Erredi Ref.
Client/Cliente Project/Progetto: Order/Ordine	

	INSPECTION/Descrizione	QUALITY RECORD/Dati		RESULT/Risultato		
PRESSURE	**Shell Test** Pressatura Corpo	Pressure Pressione	Time Durata	Passed ☐	Not passed ☐	N.A. ☐
	Seat Test Tenuta Corpo	Pressure Pressione	Time Durata	Passed ☐	Not passed ☐	N.A. ☐
	Functional Test Prova Funzionale			Passed ☐	Not passed ☐	N.A. ☐
APPEARANCE	**INTERNAL PAINTING** Verniciatura Interna			Passed ☐	Not passed ☐	N.A. ☐
	EXTERNAL PAINTING Verniciatura Esterna			Passed ☐	Not passed ☐	N.A. ☐
	DIMENSIONAL CHECK Controllo Dimensionale			Passed ☐	Not passed ☐	N.A. ☐
	COMPLIANCE OF FLANGE Controllo Flange			Passed ☐	Not passed ☐	N.A. ☐
	VISUAL EXAMINATION Controllo Visivo			Passed ☐	Not passed ☐	N.A. ☐

The Tested Equipment is in compliance with the Project Specification L'apparecchiatura collaudata risulta conforme alle specifiche di progetto			Passed ☐ Not passed ☐ N.A. ☐

Note/Remarks

Erredi srl	Client	TPI

Note: Calibration gauges certificates and quality water certificate will be provided to inspector during the test