



• INSTALLATION, OPERATION
AND MAINTENANCE MANUAL
FOR ACCESS GANGWAYS
MODELS
PF-1603, PF-1604 E PF-1605
(PF-1603-GF, PF1604-GF E PF-1605-GF)



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1. INTRODUCTION

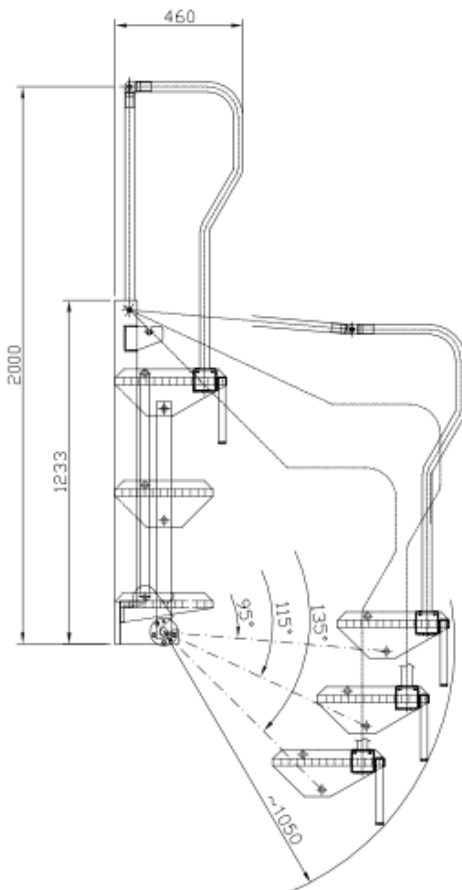
REDLANDS' ACCESS GANGWAYS, used on loading platforms for Chemicals, Petrochemicals and Byproducts, were designed to facilitate access between loading platform and the tank truck during the loading/unloading process.

REDLANDS' ACCESS GANGWAYS feature a locking system for the resting position, and can be locked at three different angles for usage, as shown in the drawing. A counterbalance system with compression springs controls the raising and lowering of the gangway, requiring minimal operator effort. The access gangways are constructed of 100% carbon steel, and come with three, four, or five steps (models PF-1603, PF-1604, and FP-1605), made of open non-slip material and with movable handrails on both sides.

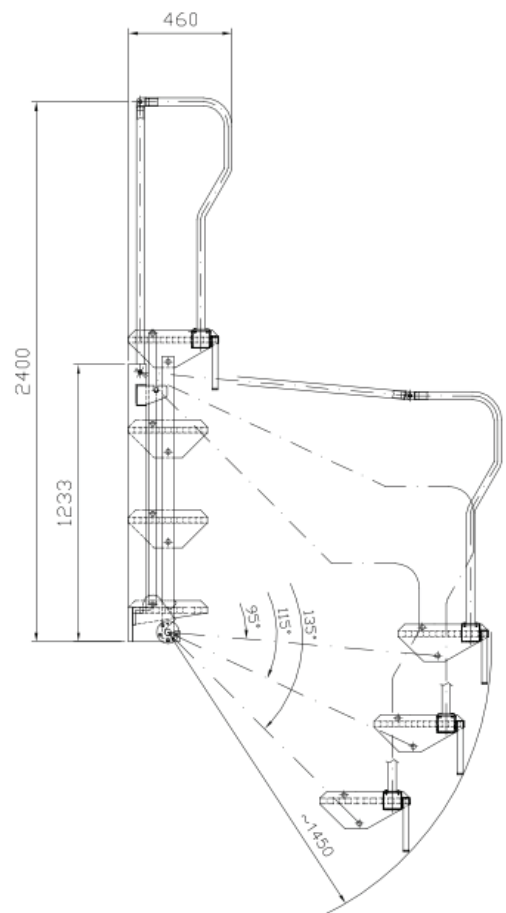
Upon request, REDLANDS' ACCESS GANGWAYS can be supplied with pneumatic cylinders, guardrails, and a hot-dip galvanized finish.

2. SPECIFICATIONS OF THE ACCESS GANGWAY

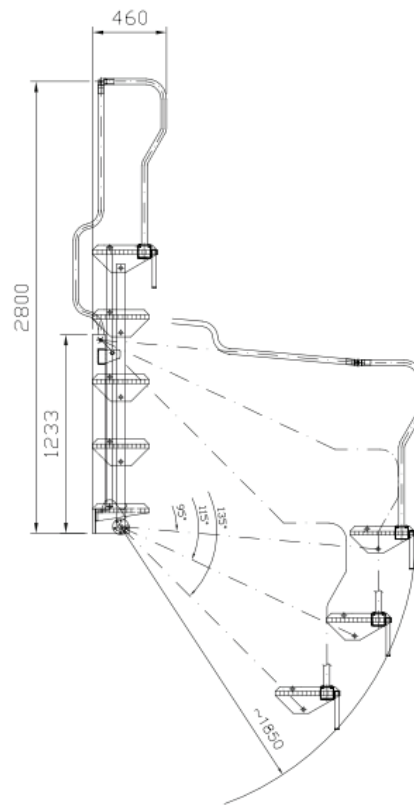
3 steps (PF-1603 / PF-1603-GF)



4 steps (PF-1604/PF-1604-GF)



5 steps (PF-1605/PF-1605-GF)



3. INSTALLATION OF THE ACCESS GANGWAY PF-1603, 1604 & 1605

Before starting the maintenance procedures in this access gangway manual, models PF-1603, PF-1604 and PF-1605, you should prepare all the tools required for the procedure.

3.1. Tools used in assembling the access gangway

- 1 open-end wrench (open-ended spanner) or box-end wrench (ring spanner) or combination wrench - 15/16".
- 1 open-end or box-end wrench or combination wrench - 7/16".
- 1 Combination Pliers.



Image 1. Tools for assembling the access gangway.

The base must be secured by eight 5/8" cap screws with 15/16" head or M24, as shown in the image. Take into account the weight of the gangway:

PF-1603 – 3 (THREE) STEPS – 152 Kg.

PF-1604 – 4 (FOUR) STEPS – 167 Kg.

PF-1605 – 5 (FIVE) STEPS – 245 Kg.



Image 1. Securing the base on the left-hand side.

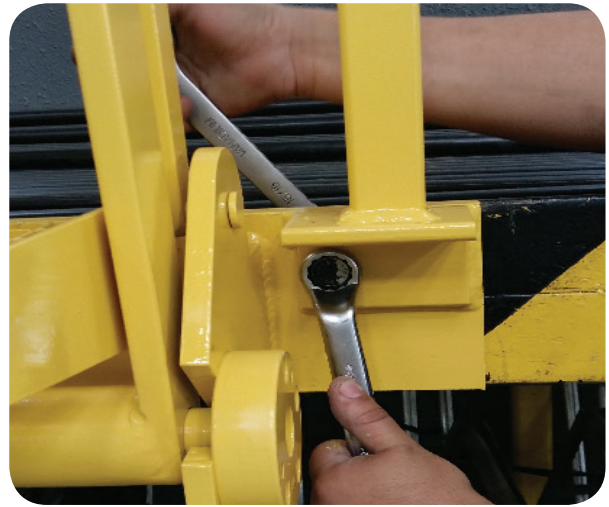


Image 2. Securing the base on the right-hand side.

3.2. Assembling the handrails of the access gangway

1. The handrail has two ends, one of which has a shaft (which will be placed at the top of the column) and the other has a footing (a square plate with four (4) holes), which should be secured on the last tread of the gangway.



Image 3. Handrail of the access gangway.

2. On the side of the last tread, secure the handrail footing using four (4) 7/16" hex-head cap screws, which should be removed from it and used for securing.



Image 4. Handrail footing secured to the base.



Image 5. Footing secured by four cap screws.

3. The handrail with the larger attachment shaft should be placed in the piston support column, secured with a cotter pin. Bend the cotter pin with the pliers.

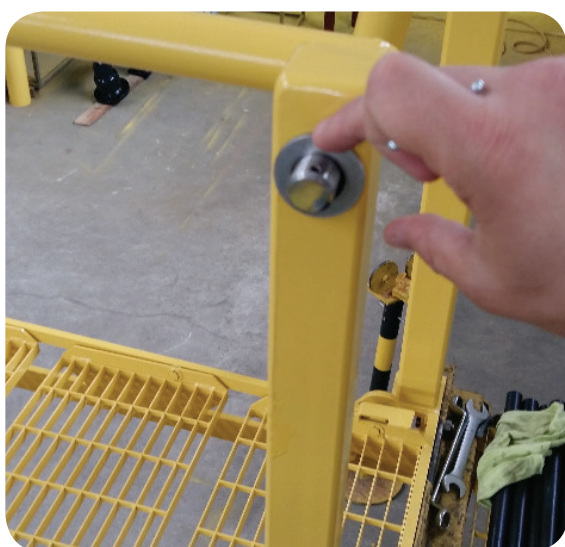


Image 6. Left support pin.

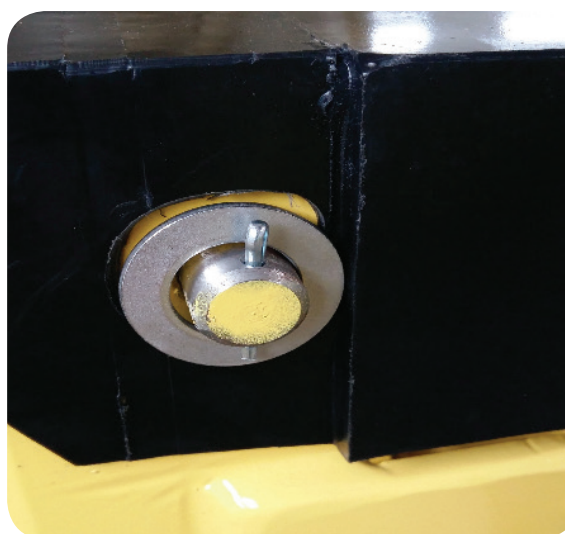


Image 7. Right piston support pin.

4. OPERATING THE ACCESS GANGWAY

Learn how to operate your access gangway properly and safely by following the procedures below.

1. The gangway, when in the upright position (retracted), will always be locked.



Image 8. Gangway in the upright position.



Image 9. Operating the pedal.



Image 10. Right pedal at the first level.

2. To release it, simply push the pedal that is on the first level on the right-hand side and push it slightly back using the handrails with both hands until you feel that it is unlocked.

Note. The 5-step gangway has two pedals.

3. With the gangway unlocked, release the pedal and push it, holding the handrails so it comes down and rests on the tank truck.



Image 11. Going down the gangway with both hands.



Image 12. Gangway locked by the pedal.

4. To retract the gangway, lightly push it downward, supporting your hands on the handrails.

5. With the pedal lock pressed, retract the gangway by the handrails.



Image 13. Pressing the pedal to retract the gangway.



Image 14. Retracting the access gangway.

6. Once it is in the upright position, release the pedal.

IMPORTANT: Always check whether the gangway is locked, pushing it back and forth.

5. MAINTENANCE OF THE ACCESS GANGWAY

Before starting the maintenance procedures in this access gangway manual, models PF-1603, PF-1604 and PF-1605, you should prepare all the tools required for the procedure.

5.1. Tools used for adjusting the spring

- 15/16" spark plug wrench or ratchet (socket wrench) with 15/16" deep-length socket.



Image 1. Spark plug wrench.



Image 2. Ratchet with deep socket.

5.2. Maintenance

When you begin maintenance on access gangways PF-1603, PF-1604 and FP-1605, pay close attention to a few safety precautions regarding the correct positioning of the gangway, to avoid accidents.

5.3. Start of maintenance

Keep the gangway in the resting position, i.e. the fully retracted gangway (upright position) and locked in place.



Image 15. Correct position for maintenance on the spring.

5.4. Pressure spring

Keep the gangway in the resting position, i.e. the fully retracted gangway (upright position) and locked in place.



Image 16. Protective cover.

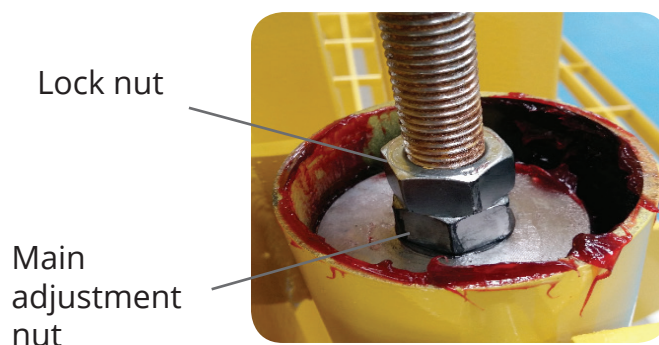


Image 17. Pressure spring adjustment nut.

5.5. Adjusting the pressure spring

To adjust pressure in the spring, use the spark plug wrench or ratchet with 15/16" deep socket.

A) Remove the lock nut.

B) To increase the spring pressure, turn the main adjustment nut clockwise until achieving a better satisfactory workload.

C) To loosen the spring pressure, rotate counterclockwise. Test the access gangway by raising and lowering it until it is comfortable to operate.

Note: To adjust the spring pressure on the PF-1605 access gangway, apply the same procedure as for models PF-1603 and PF-1604, but adjusting both springs.



Image 18. Spring pressure by the nut, clockwise.



Image 19. Shaft cylinder with spring.

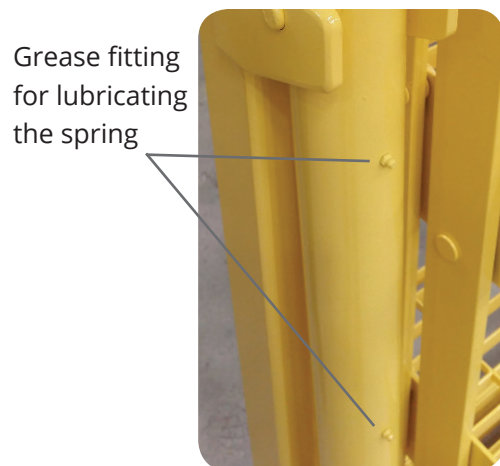


Image 20. Spring cylinder with grease fittings.

6. LUBRICATION

Lubrication depends on the number of times that the gangway is used.

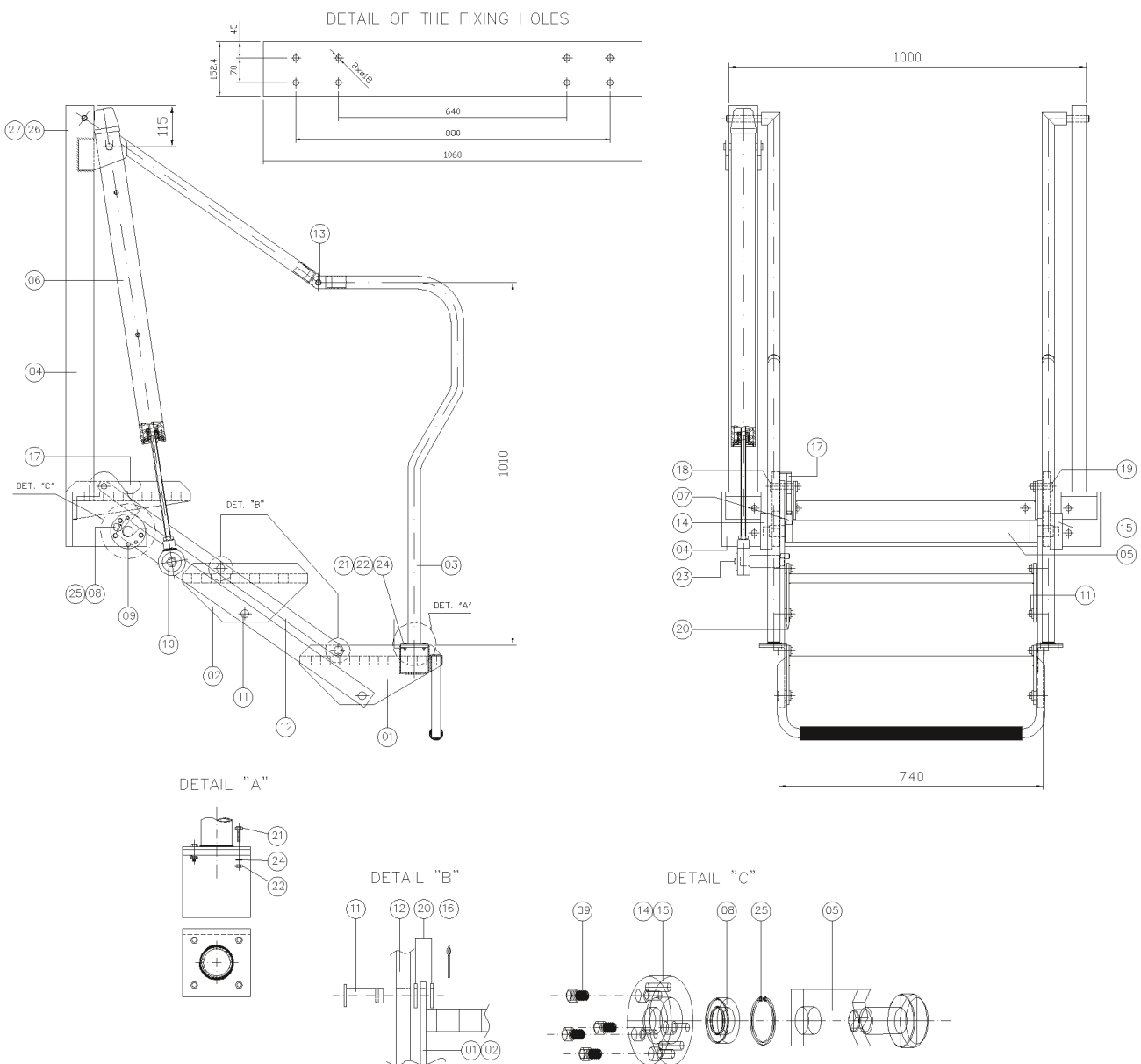
- Lubricate monthly using the cylinder grease fitting.

7. COMPONENTS OF THE ACCESS GANGWAY

Lubrication depends on the number of times that the gangway is used.

- Lubricate monthly using the cylinder grease fitting.

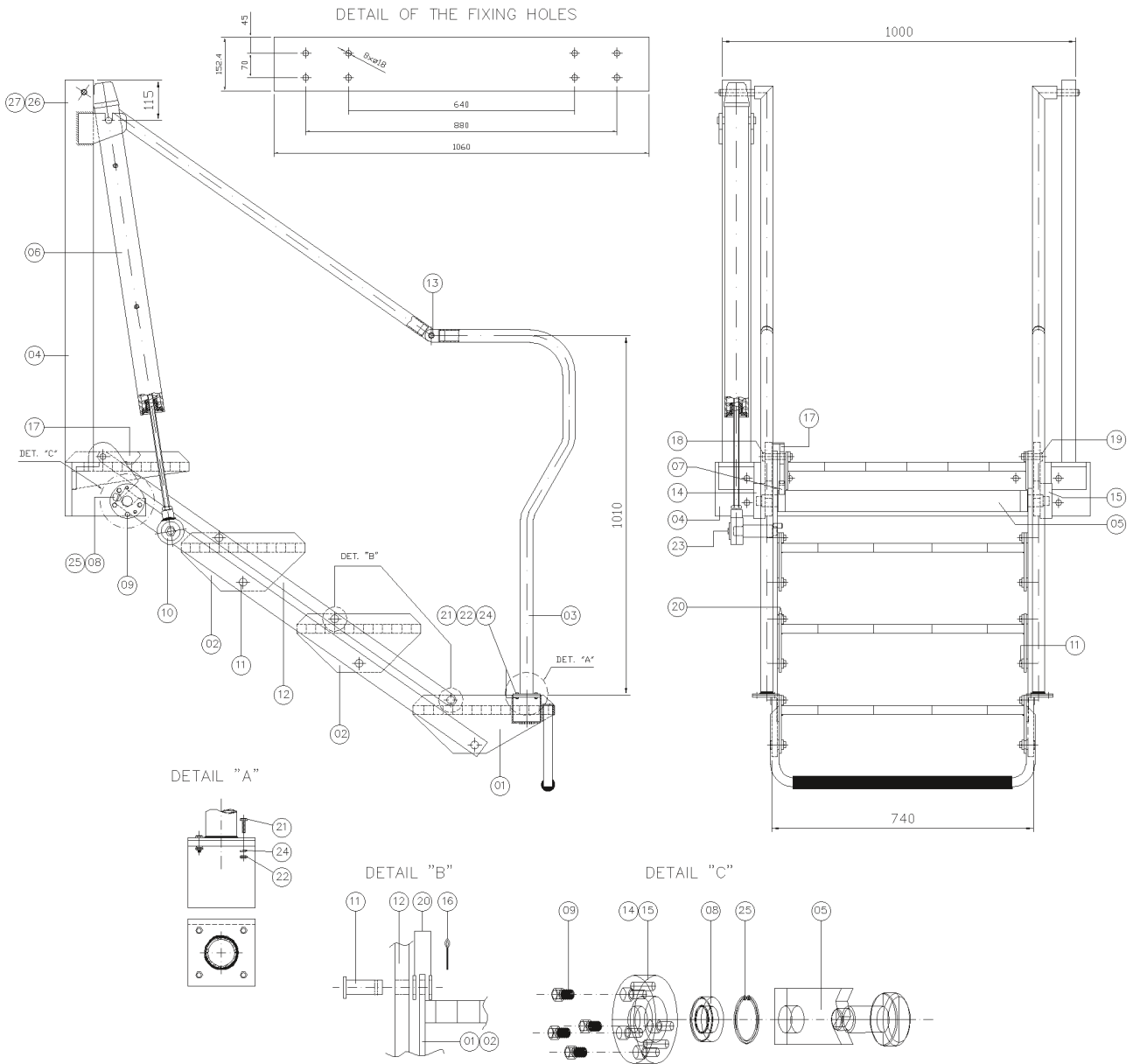
7.1. Drawings of the Access Gangway PF-1603/PF-1603-GF



Components of the PF-1603/PF-1603-GF gangway

ITEM	QTY	DESCRIPTION	PF-1603		PF-1603-GF	
			CODE	MATERIAL	CODE	MATERIAL
1	1	END TREAD SUB-ASSEMBLY	S1600-0002	CARBON STEEL	S1600-0002	CARBON STEEL
2	1	MOVABLE TREAD SUB-ASSEMBLY	S1600-0003	CARBON STEEL	S1600-0003	CARBON STEEL
3	1	HANDRAIL SUB-ASSEMBLY	S1600-0007	CARBON STEEL	S1600-0007	CARBON STEEL
4	1	GANGWAY SUPPORT SUB-ASSEMBLY	S1600-0006	CARBON STEEL	S1600-0006	CARBON STEEL
5	1	GANGWAY MOVEMENT SUB-ASSEMBLY	S1600-0027	CARBON STEEL	S1600-0027	CARBON STEEL
6	1	CYLINDER SUB-ASSEMBLY	S1600-0001	CARBON STEEL	S1600-0001	-
7	1	LATCH GUIDE (RATCHET)	A1616-0430	CARBON STEEL	A1616-0430	CARBON STEEL
8	2	ROLLER 6205-ZZ	A5966-0403	CARBON STEEL	A5966-0403	CARBON STEEL
9	8	ALLEN SCREW W/HEAD 3/8 W X 1.1/4 IN.	A1603-0402	CARBON STEEL	A1603-0402	CARBON STEEL
10	1	DISC	A1661-0435	CARBON STEEL	A1661-0435	CARBON STEEL
11	8	PIN	A1609-0423	CARBON STEEL	A1609-4123-GF	STAINLESS STEEL
12	2	SECONDARY ARM	A1606-0407	CARBON STEEL	A1606-0407	CARBON STEEL
13	2	PIN	A0009-0426	CARBON STEEL	A0009-0426	CARBON STEEL
14	1	BEARING	A1624-0409	CARBON STEEL	A1624-0409	CARBON STEEL
15	1	BEARING	A1624-0408	CARBON STEEL	A1624-0408	CARBON STEEL
16	14	COTTER PIN 1/8" X 7/8" ACZ	A0008-0417	CARBON STEEL	A0008-0417	CARBON STEEL
17	1	GANGWAY LATCH	A1635-0411	CARBON STEEL	A1635-0411	CARBON STEEL
18	1	FIXED TREAD PIN	A1609-0421	CARBON STEEL	A1609-4121-GF	STAINLESS STEEL
19	1	FIXED TREAD PIN	A1609-0422	CARBON STEEL	A1609-4122-GF	STAINLESS STEEL
20	23	FLAT WASHER 30 x 17 x 02	A0005-0425	CARBON STEEL	A0005-0425	CARBON STEEL
21	8	HEX HEAD CAP SCREW 1/4" x 3/4" WRT ACZ	A0003-0420	CARBON STEEL	A0003-0420	CARBON STEEL
22	8	HEX NUT 1/4" X 3/4" WRT ACZ	A5104-0415	CARBON STEEL	A5104-0415	CARBON STEEL
23	1	HEX HEAD CAP SCREW 1/4" W 20 ffp ACZ	A5603-0421	CARBON STEEL	A5603-0421	CARBON STEEL
24	9	LOCK WASHER 1/4" ACZ	A0005-0402	CARBON STEEL	A0005-0402	CARBON STEEL
25	2	ELASTIC RING	A5965-0410	CARBON STEEL	A5965-0410	CARBON STEEL
26	2	U RIVET NR 04 X 3/16 IN.	A0068-0401	CARBON STEEL	A0068-0401	CARBON STEEL
27	1	NAMEPLATE	A0077-4102	STAINLESS STEEL	A0077-4102	STAINLESS STEEL

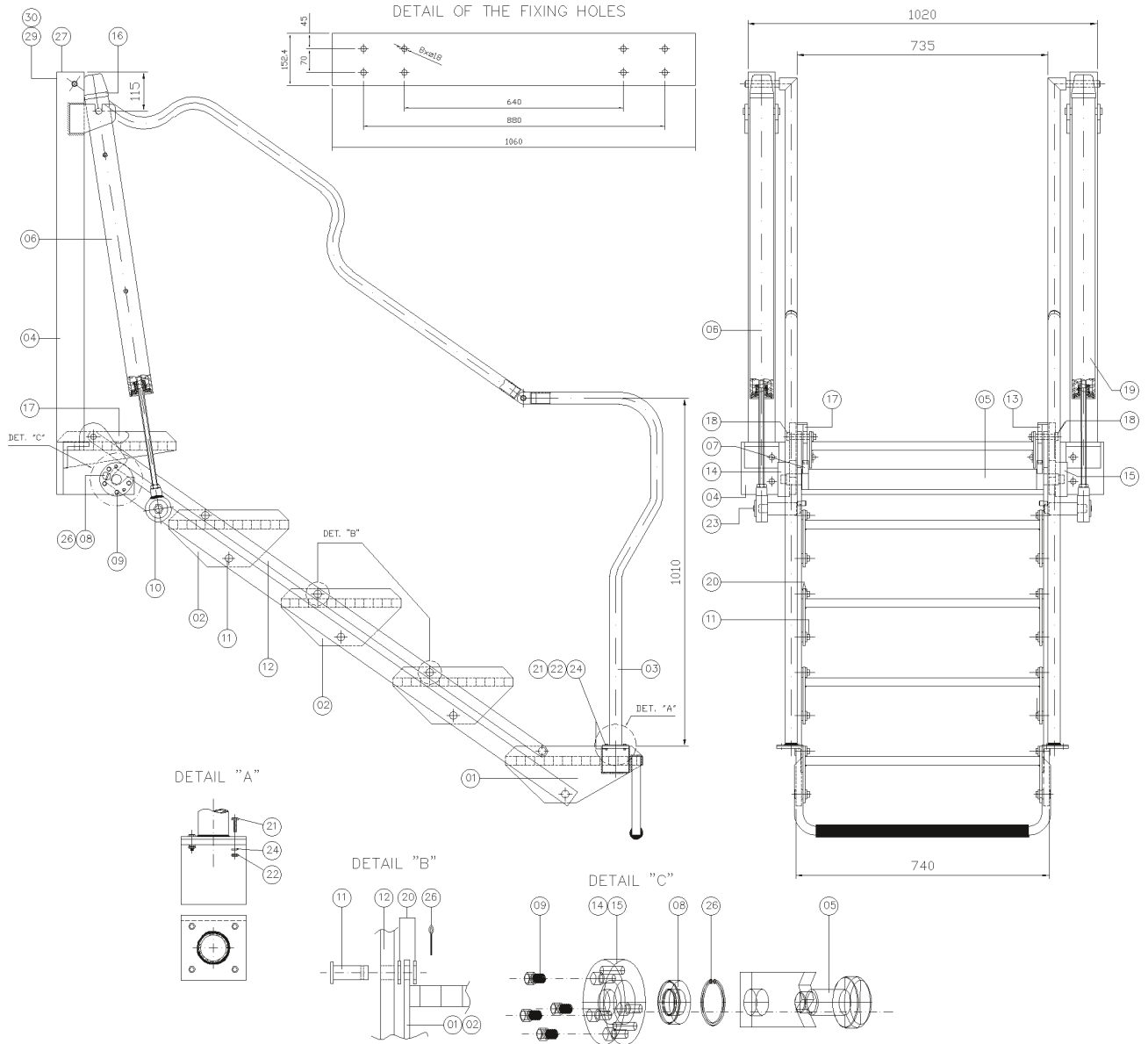
7.2. Drawings of the access gangway PF-1604/PF-1604-GF



Components of gangway models PF-1604/PF-1604-GF

ITEM	QTY	DESCRIPTION	PF-1604		PF-1604-GF	
			CODE	MATERIAL	CODE	MATERIAL
1	1	END TREAD SUB-ASSEMBLY	S1600-0002	CARBON STEEL	S1600-0002	CARBON STEEL
2	1	MOVABLE TREAD SUB-ASSEMBLY	S1600-0003	CARBON STEEL	S1600-0003	CARBON STEEL
3	1	HANDRAIL SUB-ASSEMBLY	S1600-0008	CARBON STEEL	S1600-0008	CARBON STEEL
4	1	GANGWAY SUPPORT SUB-ASSEMBLY	S1600-0006	CARBON STEEL	S1600-0006	CARBON STEEL
5	1	GANGWAY MOVEMENT SUB-ASSEMBLY	S1600-0028	CARBON STEEL	S1600-0028	CARBON STEEL
6	1	CYLINDER SUB-ASSEMBLY	S1600-0011	CARBON STEEL	S1600-0011	CARBON STEEL
7	1	LATCH GUIDE (RATCHET)	A1616-0430	CARBON STEEL	A1616-0430	CARBON STEEL
8	2	ROLLER 6205-ZZ	A5966-0403	CARBON STEEL	A5966-0403	CARBON STEEL
9	8	ALLEN SCREW W/HEAD 3/8 W X 1.1/4 IN.	A1603-0402	CARBON STEEL	A1603-0402	CARBON STEEL
10	1	DISC	A1661-0435	CARBON STEEL	A1661-0435	CARBON STEEL
11	8	PIN	A1609-0423	CARBON STEEL	A1609-4123-GF	STAINLESS STEEL
12	2	SECONDARY ARM	A1606-0408	CARBON STEEL	A1606-0408	CARBON STEEL
13	2	PIN	A0009-0426	CARBON STEEL	A0009-0426	CARBON STEEL
14	1	BEARING	A1624-0409	CARBON STEEL	A1624-0409	CARBON STEEL
15	1	BEARING	A1624-0408	CARBON STEEL	A1624-0408	CARBON STEEL
16	14	COTTER PIN 1/8" X 7/8" ACZ	A0008-0417	CARBON STEEL	A0008-0417	CARBON STEEL
17	1	GANGWAY LATCH	A1635-0411	CARBON STEEL	A1635-0411	CARBON STEEL
18	1	FIXED TREAD PIN	A1609-0421	CARBON STEEL	A1609-4121-GF	STAINLESS STEEL
19	1	FIXED TREAD PIN	A1609-0422	CARBON STEEL	A1609-4122-GF	STAINLESS STEEL
20	23	FLAT WASHER 30 x 17 x 02	A0005-0425	CARBON STEEL	A0005-0425	CARBON STEEL
21	8	HEX HEAD CAP SCREW 1/4" x 3/4" WRT ACZ	A0003-0420	CARBON STEEL	A0003-0420	CARBON STEEL
22	8	HEX NUT 1/4" W 20 ffp ACZ	A5104-0415	CARBON STEEL	A5104-0415	CARBON STEEL
23	1	HEX HEAD CAP SCREW 1/4" x 1/2" WRT ACZ	A5603-0421	CARBON STEEL	A5603-0421	CARBON STEEL
24	9	LOCK WASHER 1/4" ACZ	A0005-0402	CARBON STEEL	A0005-0402	CARBON STEEL
25	2	ELASTIC RING	A5965-0410	CARBON STEEL	A5965-0410	CARBON STEEL
26	2	U RIVET NR 04 X 3 /16 IN.	A0068-0401	CARBON STEEL	A0068-0401	CARBON STEEL
27	1	NAMEPLATE	A0077-4102	STAINLESS STEEL	A0077-4102	STAINLESS STEEL

7.3. Drawings of the access gangway PF-1605/PF-1605-GF



Components of gangway models PF-1605/PF-1605-GF

ITEM	QTY	DESCRIPTION	PF-1605		PF-1605-GFAI	
			CODE	MATERIAL	CODE	MATERIAL
01	1	END TREAD SUB-ASSEMBLY	S1600-0002	CARBON STEEL	S1600-0002	CARBON STEEL
02	3	MOVABLE TREAD SUB-ASSEMBLY	S1600-0003	CARBON STEEL	S1600-0003	CARBON STEEL
03	1	HANDRAIL SUB-ASSEMBLY	S1600-0009	CARBON STEEL	S1600-0009	CARBON STEEL
04	1	GANGWAY SUPPORT SUB-ASSEMBLY	S1600-0038	CARBON STEEL	S1600-0038	CARBON STEEL
05	1	GANGWAY MOVEMENT SUB-ASSEMBLY	S1600-0030	CARBON STEEL	S1600-0030	CARBON STEEL
06	1	CYLINDER SUB-ASSEMBLY	S1600-0011	-	S1600-0011	-
07	2	LATCH GUIDE (RATCHET)	A1616-0430	CARBON STEEL	A1616-0430	CARBON STEEL
08	2	ROLLER 6205-ZZ	A5966-0403	CARBON STEEL	A5966-0403	CARBON STEEL
09	8	ALLEN SCREW W/HEAD 3/8" x 1.1/4" ACZ	A1603-0402	CARBON STEEL	A1603-0402	CARBON STEEL
10	2	DISC	A1661-0435	CARBON STEEL	A1661-0435	CARBON STEEL
11	16	PIN	A1609-0423	CARBON STEEL	A1609-4123-GF	STAINLESS STEEL
12	2	SECONDARY ARM	A1606-0411	CARBON STEEL	A1606-0411	CARBON STEEL
13	1	LEFT GANGWAY LATCH	A1635-0411-E	CARBON STEEL	A1635-0411-E	CARBON STEEL
14	1	BEARING	A1624-0409	CARBON STEEL	A1624-0409	CARBON STEEL
15	1	BEARING	A1624-0408	CARBON STEEL	A1624-0408	CARBON STEEL
16	22	COTTER PIN 1/8" x 7/8" ACZ	A0008-0417	CARBON STEEL	A0008-0417	CARBON STEEL
17	1	SUB-ASSEMBLY FIVE-STEP GANGWAY LATCH	S1635-0405	CARBON STEEL	S1635-0405	CARBON STEEL
18	2	FIXED TREAD PIN	A1609-0421	CARBON STEEL	A1609-4121-GF	STAINLESS STEEL
19	1	CYLINDER SUB-ASSEMBLY	S1600-0001	CARBON STEEL	S1600-0001	CARBON STEEL
20	39	FLAT WASHER 30 x 17 x 02	A0005-0425	CARBON STEEL	A0005-0425	CARBON STEEL
21	8	HEX HEAD CAP SCREW 1/4" x 3/4" WRT ACZ	A0003-0420	CARBON STEEL	A0003-0420	CARBON STEEL
22	8	HEX NUT 1/4" W 20 ffp ACZ	A5104-0415	CARBON STEEL	A5104-0415	CARBON STEEL
23	2	HEX HEAD CAP SCREW 1/4" x 1/2" WRT ACZ	A5603-0421	CARBON STEEL	A5603-0421	CARBON STEEL
24	10	LOCK WASHER 1/4" ACZ	A0005-0402	CARBON STEEL	A0005-0402	CARBON STEEL
26	2	ELASTIC RING	A5965-0410	CARBON STEEL	A5965-0410	CARBON STEEL
27	2	SQUARE PLATE 76 x 3mm ESP	B1628-0402	CARBON STEEL	B1628-0402	CARBON STEEL
28	1	SUB-ASSEMBLY FIVE-STEP GANGWAY LATCH GUIDE	S1616-0405	CARBON STEEL	S1616-0405	CARBON STEEL
29	2	"U" TYPE RIVET N# 04 x 3/16"	A0068-0401	CARBON STEEL	A0068-0401	CARBON STEEL
30	1	NAMEPLATE	A0077-4102	STAINLESS STEEL 316	A0077-4102	STAINLESS STEEL 316

8.CONCLUSION

Redlands has been ISO 9001 certified since September 2002. This certification represents the service commitment we make to all our customers and employees, and establishes our leading position in this market segment.

Thank you for purchasing Redlands equipment.

For any clarifications or further information, please contact our engineering and technical assistance.



REDLANDS
LIQUID HANDLING TECHNOLOGY

Rua Anhanguera, 897 - Jd. Piratininga - Osasco - SP - Cep: 06230-110 – Brazil
Office and Factory: Tel/Fax: +55 11 3602.7300

www.redlands.com.br