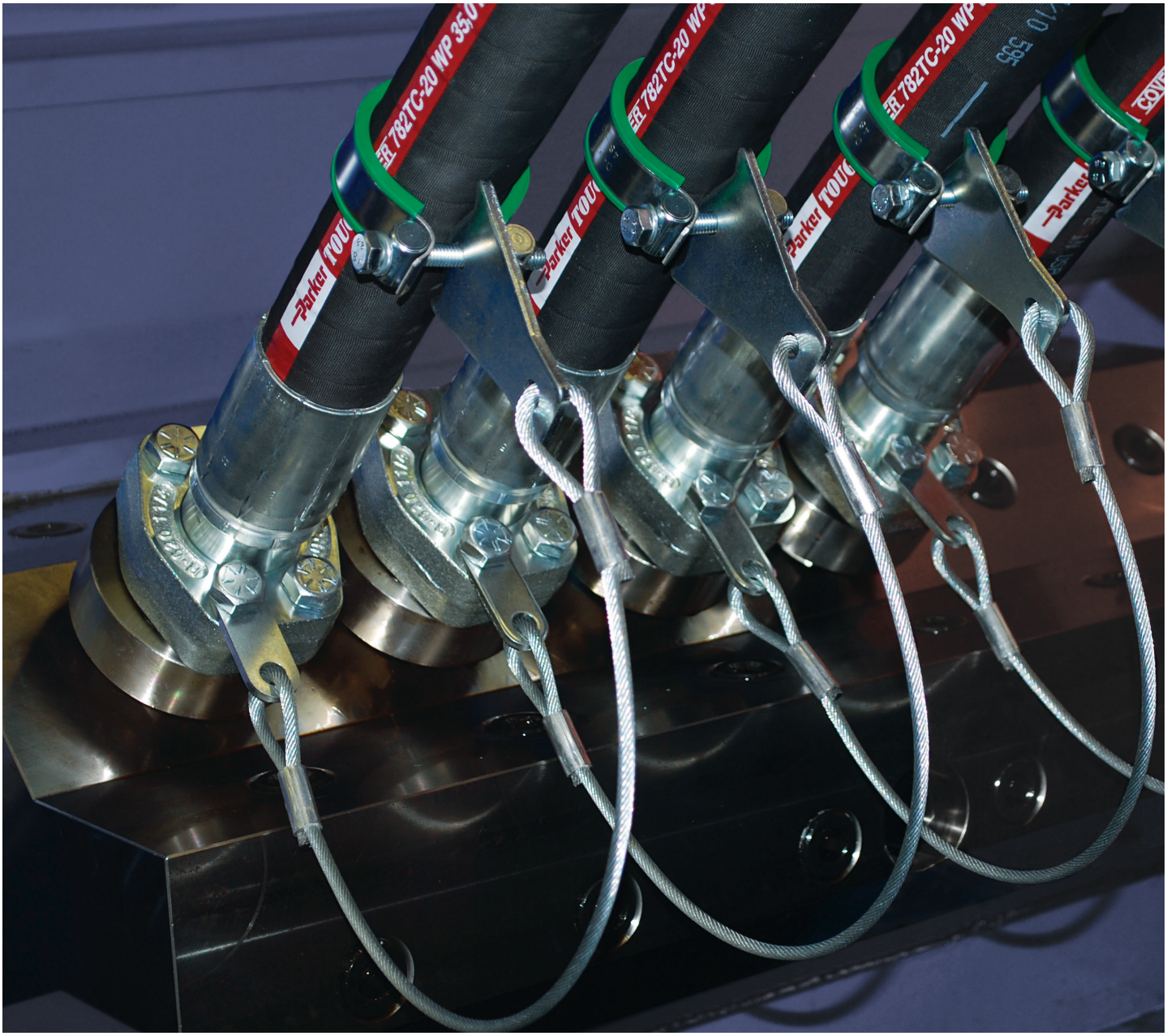
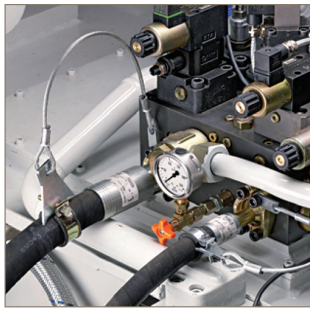
hymatik




# Hose Whip Restraint

Safety Restraining System for Pressure Hoses



Parker

ENGINEERING YOUR SUCCESS.

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# Hose Whip Restraint

## Safety restraining system for pressure hoses

The Hose Whip Restraint System is designed to prevent whipping of a pressurized hose in the event of the hose separating from its fitting.

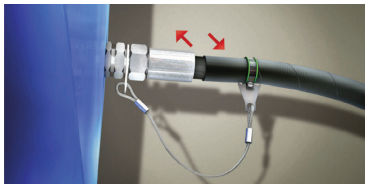
This system provides an additional level of safety and helps prevent damage to nearby equipment or injury to operators near the failed hose by limiting the whip or travel of the pressurized hose after it breaks free from its fitting.

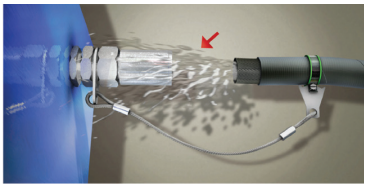
Serious damage or injury can occur from whipping hoses, especially at higher pressures. The system is comprised of two parts – a hose collar and a cable assembly.

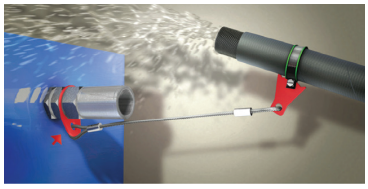
The hose collar (WRCxxxx) is selected based on the outside diameter of the hose, and the cable assembly is selected based on the type of hose connection.

Two types of cable assemblies are available – one for flange-type connections (WRFxxx), and the other for port adapters (WRAxxx).

The Hose Whip Restraint is not to be used in place of proper hose crimping procedures as outlined in Hose Products Division Catalog 4400. Exceeding the maximum operating pressure of the hose jeopardizes the proper operation of the Hose Whip Restraint System.



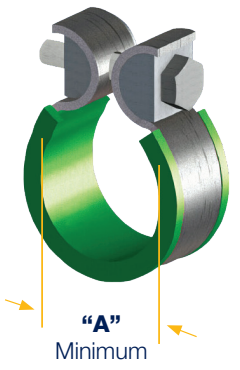


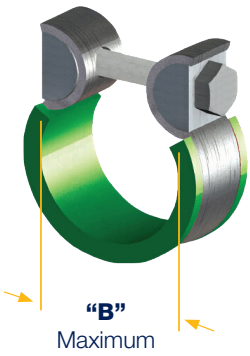


**Step 1:** Select a WRC part number based on the outside diameter of your hose.

### Hose Collars

| Part Number | Min. Opening "A" mm | Min. Opening "A" in | Max. Opening "B" mm | Max. Opening "B" in | Hose Collar Bolt Size* |
|---|---|---|---|---|---|
| WRC1212 | 12,0 | 0.47 | 12,5 | 0.49 | M6 |
| WRC1313 | 13,0 | 0.51 | 13,5 | 0.53 | M6 |
| WRC1415 | 14,0 | 0.55 | 15,0 | 0.59 | M6 |
| WRC1718 | 17,0 | 0.67 | 18,0 | 0.71 | M6 |
| WRC1819 | 18,0 | 0.71 | 19,0 | 0.75 | M6 |
| WRC2021 | 20,0 | 0.79 | 21,0 | 0.83 | M6 |
| WRC2223 | 22,0 | 0.87 | 23,0 | 0.91 | M6 |
| WRC2425 | 24,0 | 0.95 | 25,0 | 0.98 | M6 |
| WRC2526 | 25,0 | 0.98 | 26,0 | 1.02 | M6 |
| WRC2728 | 27,0 | 1.06 | 28,0 | 1.10 | M6 |
| WRC2829 | 28,0 | 1.10 | 29,0 | 1.14 | M6 |
| WRC3031 | 30,0 | 1.18 | 31,0 | 1.22 | M6 |
| WRC3435 | 34,0 | 1.34 | 35,0 | 1.38 | M6 |
| WRC3637 | 36,0 | 1.42 | 37,0 | 1.46 | M6 |
| WRC3839 | 38,0 | 1.50 | 39,0 | 1.54 | M6 |
| WRC4243 | 42,0 | 1.65 | 43,0 | 1.69 | M6 |
| WRC4445 | 44,0 | 1.73 | 45,0 | 1.77 | M6 |
| WRC4547 | 45,0 | 1.77 | 47,0 | 1.85 | M8 |
| WRC4850 | 48,0 | 1.89 | 50,0 | 1.97 | M8 |
| WRC5153 | 51,0 | 2.01 | 53,0 | 2.09 | M8 |
| WRC5456 | 54,0 | 2.13 | 56,0 | 2.21 | M8 |
| WRC6365 | 63,0 | 2.48 | 65,0 | 2.56 | M8 |
| WRC6971 | 69,0 | 2.72 | 71,0 | 2.78 | M8 |



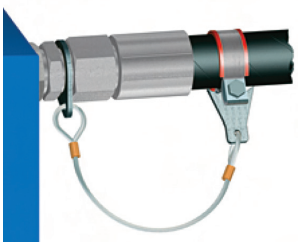

*Bolt size on collar must match the WRA or WRF bolt size.

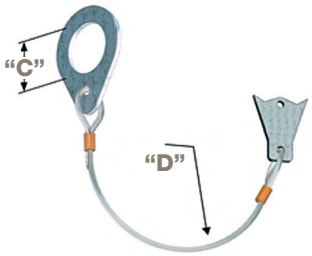
**WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defect or other reproductive harm. For more information go to www.p65warnings.ca.gov.

**Step 2:** Select either a WRA or a WRF cable assembly based on your connection type.

## Cable assembly for hose fittings or adapters

| Part Number | Max. Operating Pressure | Hole I.D. "C" | | Cable Length "D" | | Grip Plate Bolt Size* |
|---|---|---|---|---|---|---|
| | psi | mm | in | mm | in | |
| WRA115 | 6,525 | 11,5 | 0.45 | 300 | 11.81 | M6 |
| WRA132 | 6,525 | 13,2 | 0.52 | 300 | 11.81 | M6 |
| WRA145 | 6,525 | 14,5 | 0.57 | 300 | 11.81 | M6 |
| WRA148 | 6,525 | 14,8 | 0.58 | 300 | 11.81 | M6 |
| WRA170 | 6,453 | 17 | 0.67 | 300 | 11.81 | M6 |
| WRA185 | 6,090 | 18,5 | 0.73 | 300 | 11.81 | M6 |
| WRA195 | 6,090 | 19,5 | 0.77 | 300 | 11.81 | M6 |
| WRA205 | 6,090 | 20,5 | 0.81 | 300 | 11.81 | M6 |
| WRA225 | 6,090 | 22,5 | 0.89 | 300 | 11.81 | M6 |
| WRA228 | 6,090 | 22,8 | 0.90 | 300 | 11.81 | M6 |
| WRA245 | 6,090 | 24,5 | 0.96 | 300 | 11.81 | M6 |
| WRA265 | 6,090 | 26,5 | 1.04 | 300 | 11.81 | M6 |
| WRA275 | 6,090 | 27,5 | 1.08 | 300 | 11.81 | M6 |
| WRA305 | 6,090 | 30,5 | 1.20 | 300 | 11.81 | M6 |
| WRA340S | 6,090 | 34 | 1.34 | 450 | 17.72 | M6 |
| WRA340JIC | 6,090 | 34 | 1.34 | 450 | 17.72 | M8 |
| WRA365 | 6,090 | 36,5 | 1.44 | 450 | 17.72 | M8 |
| WRA415S | 6,090 | 41,5 | 1.63 | 450 | 17.72 | M6 |
| WRA415 | 6,090 | 41,5 | 1.63 | 450 | 17.72 | M8 |
| WRA425 | 6,090 | 42,5 | 1.67 | 450 | 17.72 | M8 |
| WRA455 | 6,090 | 45,5 | 1.79 | 450 | 17.72 | M8 |
| WRA480S | 6,090 | 48 | 1.89 | 450 | 17.72 | M6 |
| WRA480 | 6,090 | 48 | 1.89 | 450 | 17.72 | M8 |
| WRA490 | 6,090 | 49 | 1.93 | 450 | 17.72 | M8 |
| WRA525 | 5,583 | 52,5 | 2.07 | 450 | 17.72 | M8 |
| WRA600 | 5,075 | 60 | 2.36 | 450 | 17.72 | M8 |
| WRA640 | 5,075 | 64 | 2.52 | 450 | 17.72 | M8 |

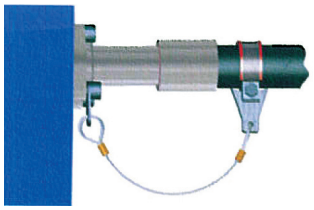


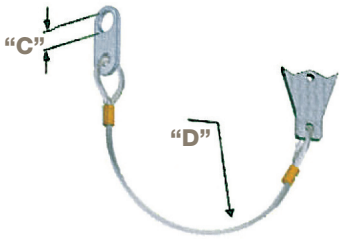



## Cable assembly for Code 61/Code 62 flanges

| Part Number | Max. Operating Pressure | Hole I.D. "C" | | Cable Length "D" | | Grip Plate Bolt Size* |
|---|---|---|---|---|---|---|
| | psi | mm | in | mm | in | |
| WRF085 | 6,018 | 8,5 | 0.33 | 300 | 11.81 | M6 |
| WRF105 | 6,090 | 10,5 | 0.41 | 450 | 17.72 | M8 |
| WRF125 | 6,090 | 12,5 | 0.49 | 450 | 17.72 | M8 |
| WRF145 | 6,090 | 14,5 | 0.57 | 450 | 17.72 | M8 |
| WRF165 | 6,090 | 16,5 | 0.65 | 450 | 17.72 | M8 |
| WRF205 | 5,075 | 20,5 | 0.81 | 450 | 17.72 | M8 |

*Bolt size on collar must match the WTA or WRF bolt size.






**WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defect or other reproductive harm. For more information go to www.p65warnings.ca.gov.

### ⚠WARNING

Failure or improper selection or improper use of hose, tubing, fittings, assemblies or related accessories ("Products") can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- Fittings thrown off at high speed
- High velocity fluid discharge
- Explosion or burning of the conveyed fluid
- Electrocution from high voltage electric power lines
- Contact with suddenly moving or falling objects that are controlled by the conveyed fluid
- Injections by high-pressure fluid discharge
- Dangerously whipping Hose
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious
- Sparking or explosion caused by static electricity buildup or other sources of electricity
- Sparking or explosion while spraying paint or flammable liquids
- Injuries resulting from inhalation, ingestion or exposure to fluids

Before selecting or using any of these Products, it is important that you read and follow Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings and Related Accessories (Parker Publication No. 4400-B.1- Revised November, 2007). Only Hose from Parker's Stratoflex Products Division is approved for in flight aerospace applications, and no other Hose can be used for such in flight applications.

The Hose Whip Restraint System has been tested to the operating pressures of the hoses listed in Hose Products Division Catalog 4400, and referenced in this bulletin. The Hose Whip Restraint is not designed to increase the hose rated pressure or to add incremental pressure rating to the hose / fitting combination. Your hose / fitting / whip restraint system is rated to the pressure of the lowest rated component of the system.

# Selection Guide

## Collar

| Part Number | Min. Opening "A" | | Max. Opening "B" | | 201, 221FR, 206, 225, 244, 266 | 213, 285, 293 | 302, 301LT, 304, 341, 421WC, BXX | 351TC/ST, 422, 431, 436, 424, 387/TC/ST, 451TC/ST, 471TC/ST, 482TC/ST, 472TC/ST, 487/TC/ST | 601 | 692 | 701, 721/TC/ST, 722/TC/ST, 774 | 731, P35, 781, 782TC/ST, 791TC, 792TC/ST | F42 | 801, 804, 821, 821FR, 831, 836 | 811, 881, 811HT | 787/TC/ST, 797/TC/ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in | mm | in | | | | | | | | | | | | |
| WRC1212 | 12 | 0.47 | 12,5 | 0.49 | | -4 | | | -3 | | | | | -4 | | |
| WRC1313 | 13 | 0.51 | 13,5 | 0.53 | -4 | | -3 | -4 | | | | | | | | 4 |
| WRC1415 | 14 | 0.55 | 15 | 0.59 | -5 | -5, -6 | -4 | -5 | -4 | -6 | | | | -5, -6 | | |
| WRC1718 | 17 | 0.67 | 18 | 0.71 | -6 | | | -6 | -5 | | | | | | | 6 |
| WRC1819 | 18 | 0.71 | 19 | 0.75 | -8 | -8 | -6 | | -6 | | | -4 | | -8 | | |
| WRC2021 | 20 | 0.79 | 21 | 0.83 | | | | -8 | | -8 | -6 | | | | | -8 |
| WRC2223 | 22 | 0.87 | 23 | 0.91 | -10 | -10 | -8 | | -8 | -10 | -8 | -6 | | -10 | | -10 |
| WRC2425 | 24 | 0.95 | 25 | 0.98 | | -12 | | -10 | | | | | -8 | | | |
| WRC2526 | 25 | 0.98 | 26 | 1.02 | | | -10 | | -10 | | | -8 | | -12 | | |
| WRC2728 | 27 | 1.06 | 28 | 1.10 | -12 | | | -12 | | | -10 | | | | | -12 |
| WRC2829 | 28 | 1.10 | 29 | 1.14 | | | -12 | | | | | -10 | | | | |
| WRC3031 | 30 | 1.18 | 31 | 1.22 | -16 | -16 | | | -12 | | -12 | -12 | -12 | -16 | -12 | |
| WRC3435 | 34 | 1.34 | 35 | 1.38 | | | | -16 | | | | | | | | -16 |
| WRC3637 | 36 | 1.42 | 37 | 1.46 | | -20 | | | -16 | | -16 | | | | -16 | |
| WRC3839 | 38 | 1.50 | 39 | 1.54 | -20 | | -16 | | | | | -16 | -16 | | | |
| WRC4243 | 42 | 1.65 | 43 | 1.69 | | | | | | | | | | | | |
| WRC4445 | 44 | 1.73 | 45 | 1.77 | -24 | -24 | | | -20 | | | | | | -20 | |
| WRC4547 | 45 | 1.77 | 47 | 1.85 | | | -20 | -20 | | | -20 | | | | | -20 |
| WRC4850 | 48 | 1.89 | 50 | 1.97 | | | | -24 | | | | -20 | -20 | | | |
| WRC5153 | 51 | 2.01 | 53 | 2.09 | | | | | | | -24 | | | | -24 | -24 |
| WRC5456 | 54 | 2.13 | 56 | 2.21 | -32 | -32 | -24 | | | | | -24 | | | | |
| WRC6365 | 63 | 2.48 | 65 | 2.56 | | | | -32 | | | -32 | | | | -32 | |
| WRC6971 | 69 | 2.72 | 71 | 2.80 | | | | | | | | -32 | | | | -32 |

## Adapter

| Part Number | "A" | | JIC 37° Fittings 103XX, 106XX, 137XX, 1L7XX, 139XX, 1L9XX, 141XX, 14VXX | Seal Lok (O-Ring Face Seal) 1JOXX, 1JBXX, 1JCXX, 1JSXX, 1J6XX, 1J7XX, 1J9XX, 1J5XX, 1J1XX | NPTF / NPSM 101XX, 113XX, 11LXX, 102XX, 1S2XX | BSPP / BSP 1D9XX, 192XX, 1B1XX, 1B2XX, 1B4XX, 1B5XX, 1FUXX, 1UTXX, 1GUXX |
|---|---|---|---|---|---|---|
| | mm | in | Port End | Port End | Port End | Port End |
| WRA115 | 11,5 | 0.45 | -4 | | | |
| WRA132 | 13,2 | 0.52 | -5 | | | |
| WRA145 | 14,5 | 0.57 | | -4 | -4 | -4 |
| WRA148 | 14,8 | 0.58 | -6 | | | |
| WRA170 | 17 | 0.67 | | | | -6 |
| WRA185 | 18,5 | 0.73 | | -6 | -6 | |
| WRA195 | 19,5 | 0.77 | | | | |
| WRA205 | 20,5 | 0.81 | -8 | | | |
| WRA225 | 22,5 | 0.89 | | -8 | -8 | -8 |
| WRA228 | 22,8 | 0.90 | -10 | | | |
| WRA245 | 24,5 | 0.96 | | | | -10 |
| WRA265 | 26,5 | 1.04 | | -10 | | |
| WRA275 | 27,5 | 1.08 | -12 | | | |
| WRA305 | 30,5 | 1.20 | -14 | -12 | -12 | -12 |
| WRA340S | 34 | 1.34 | -16 | | -16 | -16 |
| WRA340JIC | 34 | 1.34 | -16 | | | |
| WRA365 | 36,5 | 1.44 | | -16 | | |
| WRA415S | 41,5 | 1.63 | -20 | | | |
| WRA415 | 41,5 | 1.63 | -20 | | | |
| WRA425 | 42,5 | 1.67 | | | -20 | -20 |
| WRA455 | 45,5 | 1.79 | | -20 | | |
| WRA480S | 48 | 1.89 | -24 | | | |
| WRA480 | 48 | 1.89 | -24 | | | |
| WRA490 | 49 | 1.93 | | | -24 | -24 |
| WRA525 | 52,5 | 2.07 | | -24 | | |
| WRA600 | 60 | 2.36 | | | | |
| WRA640 | 64 | 2.52 | -32 | | | |

Contact HPD for other style fittings.

## Flange

| Part Number | "A" | | 5050HK | 5151HK | HFHFHK | 8FHFHK | M1M1HK | M2M2HK | FFK61 | FFK62 |
|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in | | | | | | | | |
| WRF085 | 8,5 | 0.33 | | -8 | | | | | | |
| WRF105 | 10,5 | 0.41 | | -12, -16 | -12 | -12 | -8, -12, -16, -20 | -8, -12 | -12, -16 | -12 |
| WRF125 | 12,5 | 0.49 | -20 | -20 | -16 | -16 | -24, -32, -40 | -16, -20 | -20 | -16 |
| WRF145 | 14,5 | 0.57 | -24, -32 | -24, -32, -40 | -20 | | | | -24, -32 | -20 |
| WRF165 | 16,5 | 0.65 | | -48 | -24 | | | -24 | | -24 |
| WRF205 | 20,5 | 0.81 | | | -32 | | | -32 | | -32 |

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Bulletin 4480-148 10/18

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