

Neptune® PC and ND PC In-line, Pressure Compensating Drip Tube

Application

For use in horticultural, viticultural, greenhouse and landscape applications, Neptune PC provides a highly accurate and durable drip solution.

The pressure compensating mechanism provides uniformity over long runs and changing topographies.

The Non-Drain PC emitter is suited to pulse irrigation and systems installed on sloping terrain, improving irrigation efficiencies by reducing the time taken to pressurise the system.

Features

Pressure Compensating

- Wide cross-section labyrinth creates maximum turbulence to keep debris in suspension
- Self-flushing diaphragm allows debris to pass through the emitter, reducing risk of blockages
- Pressure compensating for even water and nutrient distribution over long runs and changing topographies
- Silicone diaphragm for performance and longevity
- Low entry pressure (50 kPa) for pressure compensating mode
- Low CV provides uniform discharge over a wide pressure range
- UV stabilised LDPE tube for multi season application
- Large tube diameters available creating the ability for long runs

Non-Drain (additional features)

- Suited to pulse irrigation and sloping terrain
- Reduces time to pressurise system at start up
- Reduced water usage and energy costs

Operating Specifications

- Operating Pressure Range:
 - 15.4 and 19.0 mm I.D.: 100 - 350 kPa
 - 20.8 mm I.D.: 100 - 325 kPa
 - 25 mm I.D.: 100 - 300 kPa
- Emitter Flow: 1.2, 1.5 & 2.4 Lph
- Emitter Spacing: 0.3 - 1.0 m
- Tube I.D.: 15.4, 19.0, 20.8 & 25.0 mm
- Wall Thickness: 0.63, 0.9 & 1.0 mm
- Recommended Filtration:
 - 1.2 Lph: 150 mesh / 100 micron
 - 1.5 & 2.4 Lph: 120 mesh / 130 micron
- Non-Drain (ND) Emitter Operating Pressure:
 - ND Emitters open at 50 kPa (5.0 m)
 - ND Emitters close at 17 kPa (2.0 m)



Neptune® PC and ND PC In-line, Pressure Compensating Drip Tube

| Specifications | | | | |
|------------------------------|-------------------------------------|---|---|---|
| Nominal Diameter | 15 mm | 19 mm | 21 mm | 25 mm |
| ID (mm) | 15.4 mm | 19.0 mm | 20.8 mm | 25.0 mm |
| Flow Rates | 1.2, 1.5, 2.4 Lph | 1.2, 1.5, 2.4 Lph | 1.2, 1.5, 2.4 Lph | 1.2, 1.5, 2.4 Lph |
| Std. Wall Thickness | 0.63 & 0.90 mm | 0.63, 0.90 & 1.0 mm | 0.63, 0.90 & 1.0 mm | 0.63, 0.90 & 1.0 mm |
| Sealing Pressure (kPa) | 17 kPa | 18 kPa | 19 kPa | 20 kPa |
| Opening Pressure (kPa) | 50 kPa | 50 kPa | 50 kPa | 50 kPa |
| Compensating Range | 50-350 kPa | 50-350 kPa | 50-325 kPa | 50-300 kPa |
| Minimum Recommended Pressure | 100 kPa | 100 kPa | 100 kPa | 100 kPa |
| Maximum Pressure | 350 kPa | 350 kPa | 325 kPa | 300 kPa |
| Standard Coil Length | 400 m | 350 m | 350 m | 300 m |
| Standard Emitter Spacings | 0.3, 0.4, 0.5, 0.6, 0.75, 0.9, 1.0m | 0.3, 0.4, 0.5, 0.55, 0.6, 0.75, 0.9, 1.0m | 0.3, 0.4, 0.5, 0.55, 0.6, 0.75, 0.9, 1.0m | 0.3, 0.4, 0.5, 0.55, 0.6, 0.75, 0.9, 1.0m |

| Design Information | | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Nominal Diameter/Flow | 15/1.2 | 15/1.5 | 15/2.4 | 19/1.2 | 19/1.5 | 19/2.4 | 21/1.2 | 21/1.5 | 21/2.4 | 25/1.2 | 25/1.5 | 25/2.4 |
| ID (mm) | 15.4 | 15.4 | 15.4 | 19.0 | 19.0 | 19.0 | 20.8 | 20.8 | 20.8 | 25.0 | 25.0 | 25.0 |
| Emitter Index (in compensating range) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Emitter constant | 1.18 | 1.48 | 2.36 | 1.18 | 1.48 | 2.36 | 1.18 | 1.48 | 2.36 | 1.18 | 1.48 | 2.36 |
| Emitter Kd barb factor | 0.38 | 0.38 | 0.38 | 0.19 | 0.19 | 0.19 | 0.14 | 0.14 | 0.14 | 0.08 | 0.08 | 0.08 |
| Roughness Factor, C | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| Minimum Compensating Pressure (kPa) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Minimum Recommended Pressure (kPa) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Maximum Pressure (All Wall Thickness) | 350 | 350 | 350 | 350 | 350 | 350 | 325 | 325 | 325 | 300 | 300 | 300 |
| Filtration (micron) - sand | 100 | 130 | 130 | 100 | 130 | 130 | 100 | 130 | 130 | 100 | 130 | 130 |

| Ordering Information | | | | | |
|----------------------|-------------------------------|--|--|--|--|
| Product (Tube Type) | Emitter Type | Tube I.D. | Wall Thickness | Emitter Flow Rate | Emitter Spacing |
| N | XX | XX | XX | XX | XXX |
| Neptune dripline | PC = PC ND = Non-drain, PC | 15 = 15.4 mm 19 = 19.0 mm 21 = 20.8 mm 25 = 25.0 mm | 06 = 0.63 mm 09 = 0.9 mm 10 = 1.0 mm | 12 = 1.2 Lph 15 = 1.5 Lph 24 = 2.4 Lph | 030 = 0.30 m 040 = 0.40 m 050 = 0.50 m 055 = 0.55 m 060 = 0.60 m 075 = 0.75 m 090 = 0.90 m 100 = 1.00 m |

Example: Neptune PC 20.8 mm, 0.9 mm wall thickness, 2.4 Lph emitter every 0.3 metres would be specified as: NPC210924030
 Standard Coil Length, 15.4 mm: 400 m, 19.0 & 20.8 mm: 350 m, 25.0 mm: 300 m
 Standard emitter spacing is 0.3 m to 1.0 m. Different configurations are available on request subject to availability and minimum order quantities.
 Please refer to Customer Service for details.

Neptune® PC and Non-drain PC Run Length Tables

I.D. 15.4 mm - Flow Rate 1.2 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 123 | 154 | 182 | 208 | 246 | 279 | 302 |
| 200 | 156 | 196 | 232 | 266 | 313 | 356 | 383 |
| 250 | 180 | 225 | 267 | 306 | 360 | 410 | 442 |
| 300 | 198 | 249 | 295 | 338 | 398 | 454 | 489 |
| 350 | 214 | 269 | 318 | 365 | 429 | 490 | 528 |

I.D. 19 mm - Flow Rate 1.2 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 188 | 233 | 274 | 312 | 365 | 414 | 446 |
| 200 | 239 | 296 | 349 | 397 | 465 | 527 | 568 |
| 250 | 275 | 341 | 401 | 457 | 535 | 607 | 653 |
| 300 | 304 | 377 | 443 | 505 | 592 | 672 | 723 |
| 350 | 328 | 407 | 479 | 546 | 640 | 727 | 781 |

I.D. 15.4 mm - Flow Rate 1.5 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 106 | 133 | 158 | 180 | 212 | 241 | 260 |
| 200 | 135 | 169 | 200 | 229 | 270 | 308 | 331 |
| 250 | 155 | 194 | 230 | 264 | 311 | 355 | 382 |
| 300 | 171 | 215 | 255 | 292 | 344 | 392 | 422 |
| 350 | 185 | 232 | 275 | 315 | 371 | 424 | 456 |

I.D. 19 mm - Flow Rate 1.5 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 161 | 199 | 234 | 267 | 312 | 354 | 381 |
| 200 | 204 | 253 | 298 | 340 | 398 | 451 | 485 |
| 250 | 235 | 292 | 343 | 391 | 458 | 520 | 559 |
| 300 | 260 | 322 | 379 | 432 | 506 | 574 | 618 |
| 350 | 281 | 348 | 410 | 467 | 547 | 621 | 668 |

I.D. 15.4 mm - Flow Rate 2.4 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 78 | 98 | 116 | 132 | 156 | 177 | 192 |
| 200 | 99 | 124 | 147 | 168 | 198 | 226 | 244 |
| 250 | 114 | 143 | 169 | 194 | 229 | 261 | 281 |
| 300 | 126 | 158 | 187 | 214 | 252 | 288 | 311 |
| 350 | 136 | 170 | 202 | 232 | 273 | 311 | 336 |

I.D. 19 mm - Flow Rate 2.4 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 118 | 147 | 172 | 196 | 230 | 261 | 280 |
| 200 | 150 | 186 | 219 | 249 | 292 | 332 | 357 |
| 250 | 173 | 214 | 252 | 288 | 337 | 382 | 411 |
| 300 | 191 | 237 | 279 | 318 | 373 | 423 | 455 |
| 350 | 206 | 256 | 301 | 343 | 402 | 457 | 491 |

I.D. 20.8 mm - Flow Rate 1.2 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 221 | 273 | 320 | 364 | 425 | 482 | 518 |
| 200 | 281 | 347 | 408 | 464 | 541 | 614 | 660 |
| 250 | 324 | 400 | 469 | 534 | 624 | 707 | 761 |
| 300 | 358 | 442 | 519 | 590 | 690 | 782 | 841 |
| 350 | 387 | 478 | 561 | 638 | 746 | 846 | 909 |

I.D. 25 mm - Flow Rate 1.2 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|------|------|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 311 | 382 | 446 | 506 | 589 | 667 | 716 |
| 200 | 396 | 486 | 568 | 645 | 751 | 850 | 912 |
| 250 | 456 | 560 | 655 | 743 | 865 | 979 | 1051 |
| 300 | 504 | 619 | 724 | 821 | 956 | 1083 | 1163 |
| 350 | 545 | 669 | 782 | 888 | 1034 | 1170 | 1256 |

I.D. 20.8 mm - Flow Rate 1.5 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 191 | 236 | 277 | 315 | 368 | 416 | 447 |
| 200 | 243 | 300 | 352 | 401 | 468 | 531 | 571 |
| 250 | 280 | 346 | 406 | 462 | 539 | 612 | 657 |
| 300 | 309 | 382 | 449 | 510 | 596 | 676 | 727 |
| 350 | 334 | 413 | 485 | 551 | 645 | 731 | 786 |

I.D. 25 mm - Flow Rate 1.5 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|------|------|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 269 | 330 | 386 | 437 | 510 | 577 | 619 |
| 200 | 342 | 420 | 491 | 557 | 649 | 735 | 788 |
| 250 | 394 | 484 | 566 | 642 | 748 | 846 | 909 |
| 300 | 436 | 535 | 626 | 710 | 827 | 936 | 1005 |
| 350 | 471 | 578 | 676 | 767 | 894 | 1012 | 1087 |

I.D. 20.8 mm - Flow Rate 2.4 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 141 | 174 | 203 | 232 | 271 | 306 | 329 |
| 200 | 179 | 221 | 259 | 295 | 344 | 390 | 420 |
| 250 | 206 | 254 | 298 | 340 | 397 | 450 | 484 |
| 300 | 227 | 281 | 330 | 375 | 439 | 497 | 535 |
| 350 | 245 | 303 | 356 | 406 | 475 | 538 | 579 |

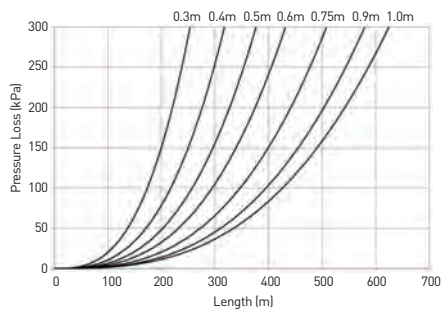
I.D. 25 mm - Flow Rate 2.4 Lph

| Operating Pressure (kPa) | Emitter Spacing (m) | | | | | | |
|--------------------------|---------------------|-----|-----|-----|------|-----|-----|
| | 0.3 | 0.4 | 0.5 | 0.6 | 0.75 | 0.9 | 1.0 |
| 150 | 198 | 243 | 284 | 322 | 375 | 424 | 455 |
| 200 | 252 | 309 | 362 | 410 | 478 | 541 | 581 |
| 250 | 290 | 356 | 417 | 473 | 551 | 624 | 670 |
| 300 | 320 | 393 | 460 | 523 | 609 | 689 | 740 |
| 350 | 346 | 426 | 498 | 565 | 658 | 745 | 800 |

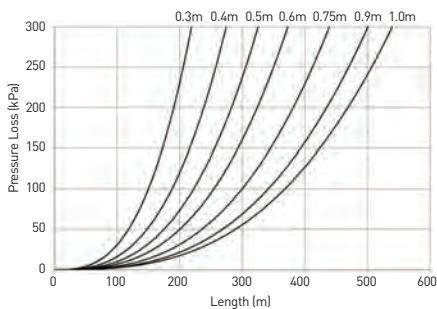
The Performance Data above is based on minimum 100 kPa operating pressure, single lateral and no elevation change.

Neptune® PC and Non-drain PC Run Length v's Pressure Tables

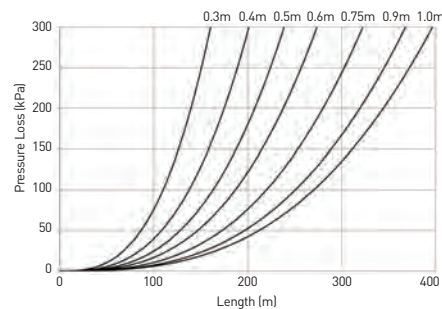
15.4mm Neptune PC 1.2 L/h Run Length vs Pressure Loss



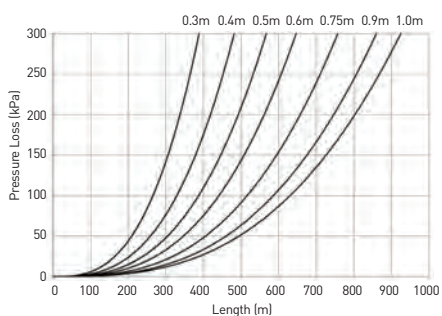
15.4mm Neptune PC 1.5 L/h Run Length vs Pressure Loss



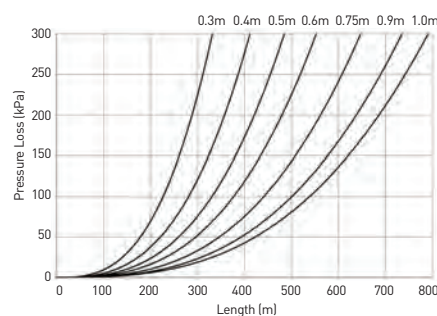
15.4mm Neptune PC 2.4 L/h Run Length vs Pressure Loss



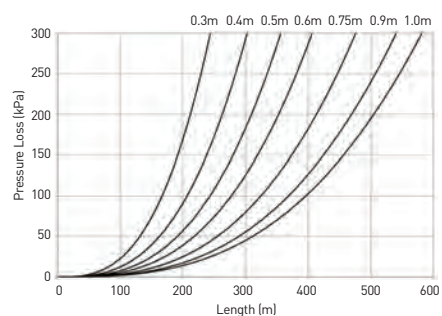
19mm Neptune PC 1.2 L/h Run Length vs Pressure Loss



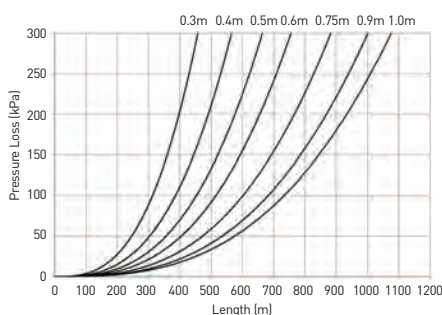
19mm Neptune PC 1.5 L/h Run Length vs Pressure Loss



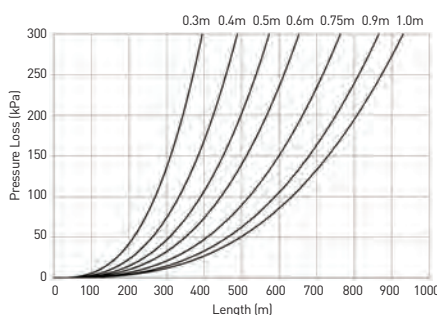
19mm Neptune PC 2.4 L/h Run Length vs Pressure Loss



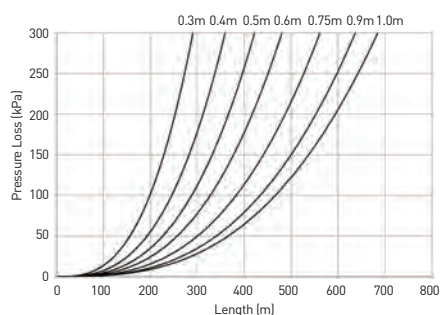
20.8mm Neptune PC 1.2 L/h Run Length vs Pressure Loss



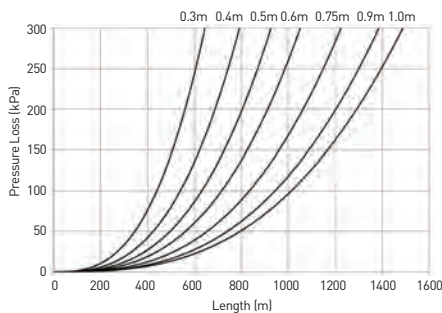
20.8mm Neptune PC 1.5 L/h Run Length vs Pressure Loss



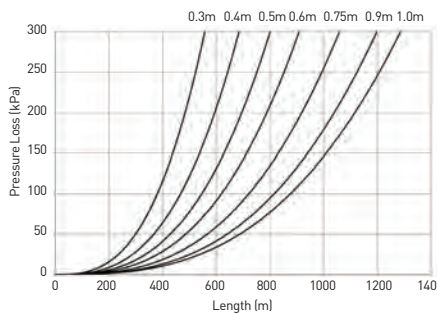
20.8mm Neptune PC 2.4 L/h Run Length vs Pressure Loss



25mm Neptune PC 1.2 L/h Run Length vs Pressure Loss



25mm Neptune PC 1.5 L/h Run Length vs Pressure Loss



25mm Neptune PC 2.4 L/h Run Length vs Pressure Loss

