

TurboDrag pumps with pumping speed up to 1500 l/s

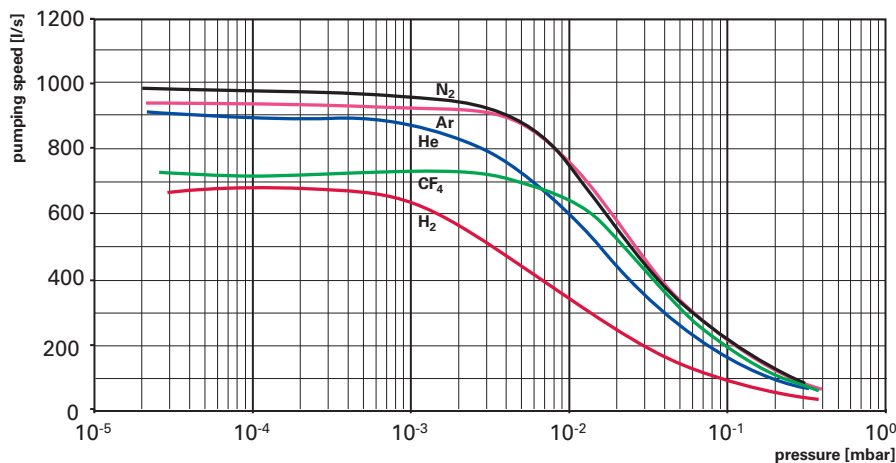
TMH/U 1000 M / TMH/U 1600 M



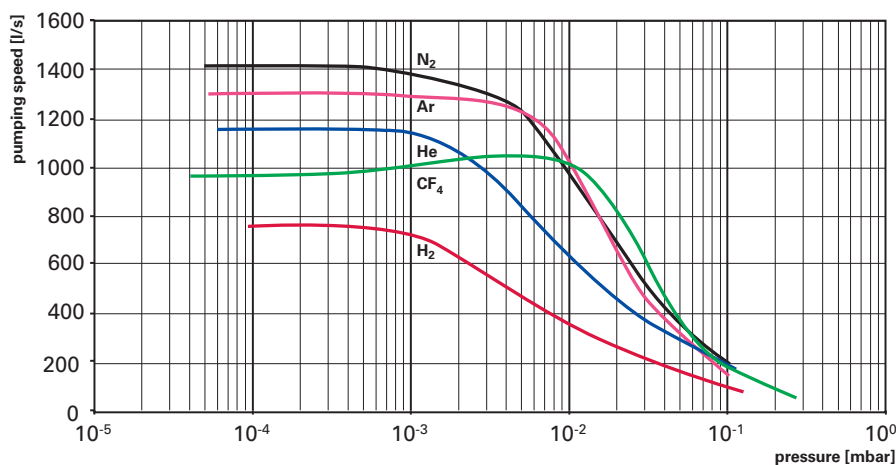
- ▶ Magnetic bearing system with 3 active and 2 passive axes, with the following benefits: maintenance-free, free of hydrocarbons, for installation in any orientation, low vibration and noise levels
- ▶ High gas throughput also in the case of low volume flow rates of the backing pump
- ▶ Versions for handling corrosive gases are available (C types)
- ▶ Integrated sealing gas system
- ▶ High critical backing pressure
- ▶ Fast and reliable venting through integrated and patented venting method
- ▶ Type of cooling: Air/water cooling



Pumping speed

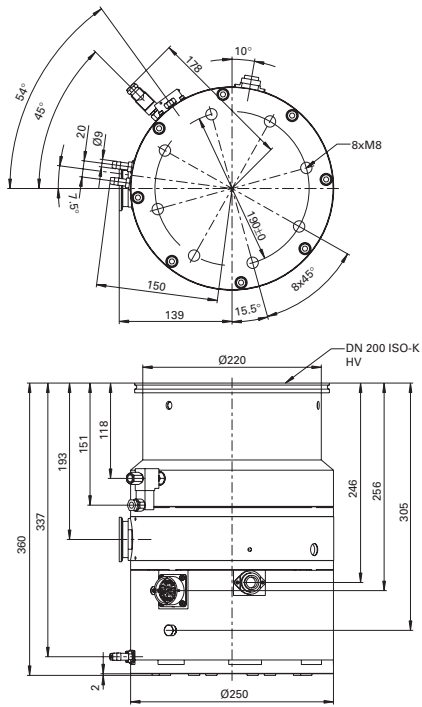


TMH 1000 M, DN 200

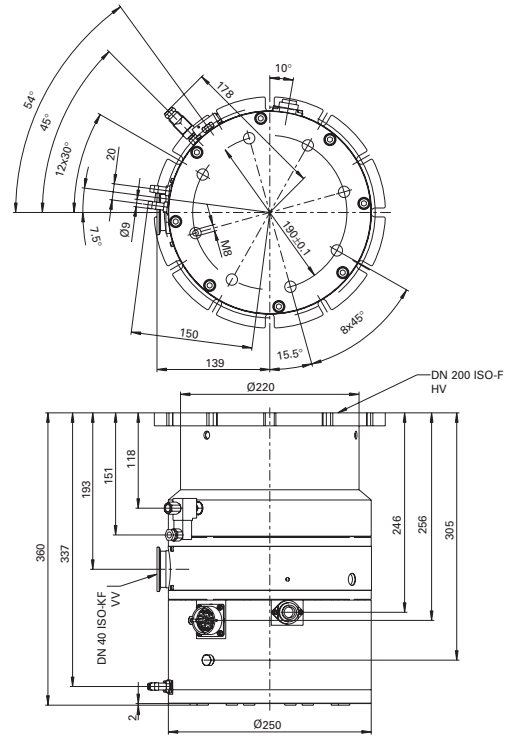


TMH 1600 M, DN 250

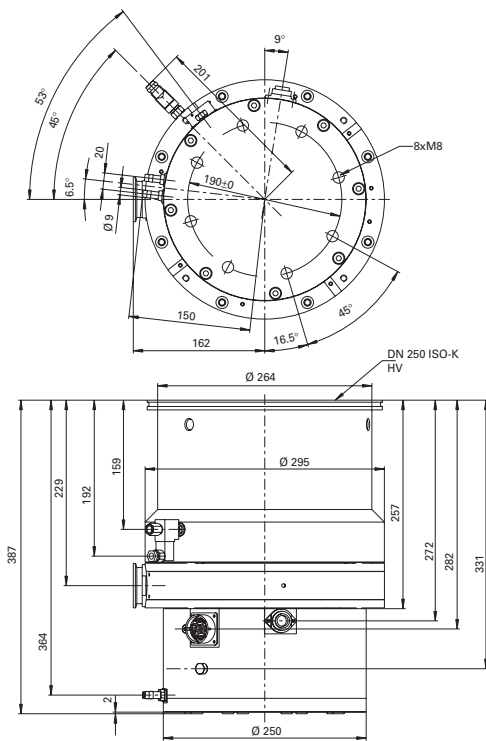
Dimensions (in mm)



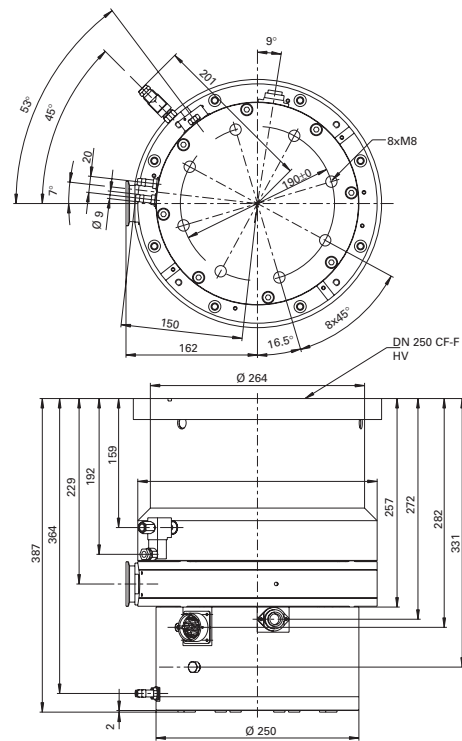
TMH 1000 MP, DN 200 ISO-K



TMH 1000 MPC, DN 200 ISO-F



TMH 1600 MPCH, DN 250 ISO-K



TMU 1600 MP, DN 250 CF-F

Technical data - TMH/U 1000 M / TMH/U 1600 M

	TMH/U 1000 MP DN 200 ISO-K/ ISO-F/CF-F	TMH/U 1000 MPC DN 200 ISO-K/ ISO-F	TMH/U 1000 MPCT DN 200 ISO-K/ ISO-F	
Connection nominal diameter				
Flange (in)	DN 200 ISO-K	DN 200 ISO-K	DN 200 ISO-K	
Flange (out)	DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF	
Venting connection at integrated venting valve	G 1/8"	G 1/8"	G 1/8"	
Pumping speed [l/s]				
Hydrogen H ₂	680	680	680	
Helium He	870	870	870	
Nitrogen N ₂	980	980	980	
Argon Ar	930	930	930	
CF ₄	-	730	730	
Compression ratio				
Hydrogen H ₂	>4·10 ⁴	>4·10 ⁴	>4·10 ⁴	
Helium He	>3·10 ⁶	>3·10 ⁶	>3·10 ⁶	
Nitrogen N ₂	>1·10 ⁸	>1·10 ⁸	>1·10 ⁸	
Argon Ar	>4·10 ⁸	>4·10 ⁸	>4·10 ⁸	
CF ₄	-	>1·10 ⁸	>1·10 ⁸	
Max. fore vacuum pressure for N₂ [mbar]	11	11	11	
Max. gas throughput at 0.1 mbar HV [mbar l/s]				
Hydrogen H ₂	10	10	10	
Helium He	17	17	17	
Nitrogen N ₂	20	20	20	
Argon Ar	20	20	20	
CF ₄	-	20	20	
Max. gas throughput at nom. rotation speed [mbar l/s]				
Pumping speed of used backing pump	65 m ³ /h	65 m ³ /h	65 m ³ /h	
Hydrogen H ₂	>18	>18	>18	
Helium He	18	18	18	
Nitrogen N ₂	12	12	12	
Argon Ar	9	9	9	
CF ₄	-	8	8	
Ultimate pressure (see page 144) [mbar]	<5·10 ⁻¹⁰	<1·10 ⁻⁸	<1·10 ⁻⁸	
Rotational speed [1/min]	39600	39600	39600	
Run-up time [min]	4	4	4	
Cooling method, standard	Water	Water	Water	
Cooling water consumption [l/h]	100	100	100	
Max. cooling water temperature [°C]	25	25	25	
Weight [kg]	53	53	53	
Ordering number pump				
	ISO-K	PM P03 350	PM P03 352	PM P03 355
	ISO-F	PM P03 351	PM P03 353	PM P03 357
	CF-F	PM P03 360	-	-

TMH/U 1600 MP DN 250 ISO-K/ ISO-F/CF-F	TMH/U 1600 MPCH DN 250 ISO-K/ ISO-F	TMH/U 1600 MPCHT DN 250 ISO-K/ ISO-F
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DN 250 ISO-K	DN 250 ISO-K	DN 250 ISO-K
DN 40 ISO-KF	DN 40 ISO-KF	DN 40 ISO-KF
G 1/8"	G 1/8"	G 1/8"

780	850	850
1180	1230	1230
1400	1400	1400
1300	1300	1300
-	1000	1000

$>1 \cdot 10^4$	$>1 \cdot 10^3$	$>1 \cdot 10^3$
$>3 \cdot 10^5$	$>2 \cdot 10^4$	$>2 \cdot 10^4$
$>1 \cdot 10^{10}$	$>1 \cdot 10^8$	$>1 \cdot 10^8$
$>1 \cdot 10^8$	$>1 \cdot 10^8$	$>1 \cdot 10^8$
-	$>1 \cdot 10^8$	$>1 \cdot 10^8$
10	4	4

10	10	10
20	20	20
20	23	23
16	20	20
-	20	20

65 m ³ /h	65 m ³ /h	65 m ³ /h
>20	19	19
18	20	20
14	18	18
8	10	10
-	9	9

$<5 \cdot 10^{-10}$	$<1 \cdot 10^{-8}$	$<1 \cdot 10^{-8}$
36000	36000	36000
6	7	7
Water	Water	Water
100	100	100
25	25	25
65	65	65

PM P03 370	PM P03 373	PM P03 376
PM P03 372	PM P03 375	PM P03 378
PM P03 380	-	-

Ordering numbers power supplies and cables - TMH/U 1000 M / TMH/U 1600 M

	TMH/U 1000 MP		
	DN 200 ISO-K	DN 200 ISO-F	DN 200 CF-F
Ordering number pump			
	PM P03 350	PM P03 351	PM P03 360
	TMH/U 1600 MP		
	DN 250 ISO-K	DN 250 ISO-F	DN 250 CF
Ordering number pump			
	PM P03 370	PM P03 372	PM P03 380
Magnetic drive electronic			
TCM 1601 magnetic drive electronic	PM C01 677	PM C01 677	PM C01 677
Control units			
HPU 001 Handheld Programming Unit	PM 051 510-T	PM 051 510-T	PM 051 510-T
Accessorie for HPU (Power supply, software, PC-cable)	PM 061 005-T	PM 061 005-T	PM 061 005-T
Mains cable, length 3 m			
for TCM 1601 with safety plug (230 V AC)	P 4564 309 ZA	P 4564 309 ZA	P 4564 309 ZA
for TCM 1601 with UL plug (208 V AC)	P 4564 309 ZF	P 4564 309 ZF	P 4564 309 ZF
for TCM 1601 with UL plug (115 V AC)	P 4564 309 ZE	P 4564 309 ZE	P 4564 309 ZE
Connection cable, length 3 m for			
Turbo - TCM 1601	PM 041 816-T	PM 041 816-T	PM 041 816-T

TMH 1000 MPC
DN 200 ISO-K DN 200 ISO-F

PM P03 352 PM P03 353

TMH 1000 MPCT
DN 200 ISO-K DN 200 ISO-F

PM P03 355 PM P03 357

TMH 1600 MPCH
DN 250 ISO-K DN 250 ISO-F

PM P03 373 PM P03 375

TMH 1600 MPCHT
DN 250 ISO-K DN 250 ISO-F

PM P03 376 PM P03 378

PM C01 677 PM C01 677

PM C01 677 PM C01 677

PM 051 510-T PM 051 510-T
PM 061 005-T PM 061 005-T

PM 051 510-T PM 051 510-T
PM 061 005-T PM 061 005-T

P 4564 309 ZA P 4564 309 ZA
P 4564 309 ZF P 4564 309 ZF
P 4564 309 ZE P 4564 309 ZE

P 4564 309 ZA P 4564 309 ZA
P 4564 309 ZF P 4564 309 ZF
P 4564 309 ZE P 4564 309 ZE

PM 041 816-T PM 041 816-T

PM 041 816-T PM 041 816-T



Ordering numbers accessories - TMH/U 1000 M

	TMH/U 1000 MP		
	DN 200 ISO-K	DN 200 ISO-F	DN 200 CF-F
Ordering number pump	PM P03 350	PM P03 351	PM P03 360
Cooling accessories			
Air cooling unit with safety plug (230/208 V)	PM Z01 250	PM Z01 250	PM Z01 250
Air cooling unit with UL plug (115 V)	PM Z01 256	PM Z01 256	PM Z01 256
Water cooling unit TZK 400 230V/50Hz	PM Z01 245	PM Z01 245	PM Z01 245
Heating accessories			
Heating jacket 230 V AC, safety plug	PM 041 909-T	PM 041 909-T	PM 041 909-T
Heating jacket 208 V AC, UL plug	PM 041 910-T	PM 041 910-T	PM 041 910-T
Heating jacket 115 V AC, UL plug	PM 041 911-T	PM 041 911-T	PM 041 911-T
Backing pump control			
Pumping station control TCS 180	PM C01 655	PM C01 655	PM C01 655
Fore vacuum safety valve TVV 001, DN 16 ISO-KF 230 V AC	PM Z01 205	PM Z01 205	PM Z01 205
Fore vacuum safety valve TVV 001, DN 16 ISO-KF 115 V AC	PM Z01 206	PM Z01 206	PM Z01 206
General accessories			
Air drier TTV 001	PM Z00 121	PM Z00 121	PM Z00 121
Sealing gas valve	PM Z01 142	PM Z01 142	PM Z01 142
Coated centering ring	PM 016 220-U	PM 016 220-U	-
Coated centering ring with protection screen	PM 016 222-U	PM 016 222-U	-
Protection screen	-	-	PM 016 342
Coated centering ring with integrated splinter shield	PM 016 221-U	PM 016 221-U	
Splinter shield	-	-	PM 016 321
Vibration damper	PM 006 668-X	PM 006 668-X	PM 006 669-X
PWM-box, pre-switching unit for rotation speed control	PM 051 028-U	PM 051 028-U	PM 051 028-U
Battery box TBB 001	PM K01 712	PM K01 712	PM K01 712
Serial Interface Converter RS-232-485	PM 051 054-T	PM 051 054-T	PM 051 054-T
Profibus - Gateway TIC 250	PM 051 257-T	PM 051 257-T	PM 051 257-T
Mounting materials			
Coated centering ring, bracket screws	PM 016 390-T	-	-
Coated centering ring with protect. screen, bracket screws	PM 016 392-T	-	-
Coated centering ring with splinter shield, bracket screws	PM 016 391-T	-	-
Coated centering ring, hexagonal bolts	-	PM 016 470-T	-
Coated centering ring with protect. screen, hexagonal bolts	-	PM 016 472-T	-
Coated centering ring with splinter shield, hexagonal bolts	-	PM 016 471-T	-
Coated centering ring, stud screws	-	PM 016 475-T	-
Coated centering ring with protection screen, stud screws	-	PM 016 477-T	-
Coated centering ring with splinter shield, stud screws	-	PM 016 476-T	-
Set of hexagonal bolts for CF-flanges	-	-	PF 505 004-T
Set of stud screws for CF-flanges	-	-	PF 507 004-T

TMH 1000 MPC
DN 200 ISO-K DN 200 ISO-F

TMH 1000 MPCT
DN 200 ISO-K DN 200 ISO-F

PM P03 352 PM P03 353

PM P03 355 PM P03 357

PM Z01 250 PM Z01 250
PM Z01 256 PM Z01 256
PM Z01 245 PM Z01 245

PM Z01 250 PM Z01 250
PM Z01 256 PM Z01 256
PM Z01 245 PM Z01 245

PM 041 909-T PM 041 909-T
PM 041 910-T PM 041 910-T
PM 041 911-T PM 041 911-T

PM 041 909-T PM 041 909-T
PM 041 910-T PM 041 910-T
PM 041 911-T PM 041 911-T

PM C01 655 PM C01 655
PM Z01 205 PM Z01 205
PM Z01 206 PM Z01 206

PM C01 655 PM C01 655
PM Z01 205 PM Z01 205
PM Z01 206 PM Z01 206

PM Z00 121 PM Z00 121
PM Z01 142 PM Z01 142
PM 016 220-U PM 016 220-U
PM 016 222-U PM 016 222-U
- -
PM 016 221-U PM 016 221-U
- -
PM 006 668-X PM 006 668-X
PM 051 028-U PM 051 028-U
PM K01 712 PM K01 712
PM 051 054-T PM 051 054-T
PM 051 257-T PM 051 257-T

PM Z00 121 PM Z00 121
PM Z01 142 PM Z01 142
PM 016 220-U PM 016 220-U
PM 016 222-U PM 016 222-U
- -
PM 016 221-U PM 016 221-U
- -
PM 006 668-X PM 006 668-X
PM 051 028-U PM 051 028-U
PM K01 712 PM K01 712
PM 051 054-T PM 051 054-T
PM 051 257-T PM 051 257-T

PM 016 390-T -
PM 016 392-T -
PM 016 391-T -
- PM 016 470-T
- PM 016 472-T
- PM 016 471-T
- PM 016 475-T
- PM 016 477-T
- PM 016 476-T
- -
- -

PM 016 390-T -
PM 016 392-T -
PM 016 391-T -
- PM 016 470-T
- PM 016 472-T
- PM 016 471-T
- PM 016 475-T
- PM 016 477-T
- PM 016 476-T
- -
- -



Ordering numbers accessories - TMH/U 1600 M

	DN 250 ISO-K	TMH/U 1600 MP DN 250 ISO-F	DN 250 CF-F
Ordering number pump	PM P03 370	PM P03 372	PM P03 380
Cooling accessories			
Air cooling unit with safety plug (230/208 V)	PM Z01 250	PM Z01 250	PM Z01 250
Air cooling unit with UL plug (115 V)	PM Z01 256	PM Z01 256	PM Z01 256
Water cooling unit TZK 400 230V/50Hz	PM Z01 245	PM Z01 245	PM Z01 245
Heating accessories			
Heating jacket 230 V AC, safety plug	PM 041 912-T	PM 041 912-T	PM 041 912-T
Heating jacket 208 V AC, UL plug	PM 041 913-T	PM 041 913-T	PM 041 913-T
Heating jacket 115 V AC, UL plug	PM 041 914-T	PM 041 914-T	PM 041 914-T
Backing pump control			
Pumping station control TCS 180	PM C01 655	PM C01 655	PM C01 655
Fore vacuum safety valve TVV 001, DN 16 ISO-KF 230 V AC	PM Z01 205	PM Z01 205	PM Z01 205
Fore vacuum safety valve TVV 001, DN 16 ISO-KF 115 V AC	PM Z01 206	PM Z01 206	PM Z01 206
General accessories			
Air drier TTV 001	PM Z00 121	PM Z00 121	PM Z00 121
Sealing gas valve	PM Z01 142	PM Z01 142	PM Z01 142
Coated centering ring	PM 016 225-U	PM 016 225-U	-
Coated centering ring with protection screen	PM 016 227-U	PM 016 227-U	-
Protection screen	-	-	PM 016 345
Coated centering ring with integrated splinter shield	PM 016 226-U	PM 016 226-U	-
Splinter shield	-	-	PM 016 324
Vibration damper	PM 006 670-X	PM 006 670-X	PM 006 671-X
PWM-box, pre-switching unit for rotation speed control	PM 051 028-U	PM 051 028-U	PM 051 028-U
Battery box TBB 001	PM K01 712	PM K01 712	PM K01 712
Serial Interface Converter RS-232-485	PM 051 054-T	PM 051 054-T	PM 051 054-T
Profibus - Gateway TIC 250	PM 051 257-T	PM 051 257-T	PM 051 257-T
Mounting materials			
Coated centering ring, bracket screws	PM 016 415-T	-	-
Coated centering ring with protect. screen, bracket screws	PM 016 417-T	-	-
Coated centering ring with splinter shield, bracket screws	PM 016 416-T	-	-
Coated centering ring, hexagonal bolts	-	PM 016 480-T	-
Coated centering ring with protect. screen, hexagonal bolts	-	PM 016 482-T	-
Coated centering ring with splinter shield, hexagonal bolts	-	PM 016 481-T	-
Coated centering ring, stud screws	-	PM 016 485-T	-
Coated centering ring with protection screen, stud screws	-	PM 016 487-T	-
Coated centering ring with splinter shield, stud screws	-	PM 016 486-T	-
Set of hexagonal bolts for CF-flanges	-	-	PF 505 005-T
Set of stud screws for CF-flanges	-	-	PF 507 004-T

TMH 1600 MPCH
DN 250 ISO-K DN 250 ISO-F

TMH 1600 MPCHT
DN 250 ISO-K DN 250 ISO-F

PM P03 373 PM P03 375

PM P03 376 PM P03 378

PM Z01 250 PM Z01 250
PM Z01 256 PM Z01 256
PM Z01 245 PM Z01 245

PM Z01 250 PM Z01 250
PM Z01 256 PM Z01 256
PM Z01 245 PM Z01 245

PM 041 912-T PM 041 912-T
PM 041 913-T PM 041 913-T
PM 041 914-T PM 041 914-T

PM 041 912-T PM 041 912-T
PM 041 913-T PM 041 913-T
PM 041 914-T PM 041 914-T

PM C01 655 PM C01 655
PM Z01 205 PM Z01 205
PM Z01 206 PM Z01 206

PM C01 655 PM C01 655
PM Z01 205 PM Z01 205
PM Z01 206 PM Z01 206

PM Z00 121 PM Z00 121
PM Z01 142 PM Z01 142
PM 016 225-U PM 016 225-U
PM 016 227-U PM 016 227-U
- -
PM 016 226-U PM 016 226-U
- -
PM 006 670-X PM 006 670-X
PM 051 028-U PM 051 028-U
PM K01 712 PM K01 712
PM 051 054-T PM 051 054-T
PM 051 257-T PM 051 257-T

PM Z00 121 PM Z00 121
PM Z01 142 PM Z01 142
PM 016 225-U PM 016 225-U
PM 016 227-U PM 016 227-U
- -
PM 016 226-U PM 016 226-U
- -
PM 006 670-X PM 006 670-X
PM 051 028-U PM 051 028-U
PM K01 712 PM K01 712
PM 051 054-T PM 051 054-T
PM 051 257-T PM 051 257-T

PM 016 415-T -
PM 016 417-T -
PM 016 416-T -
- PM 016 480-T
- PM 016 482-T
- PM 016 481-T
- PM 016 485-T
- PM 016 487-T
- PM 016 486-T
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PM 016 415-T -
PM 016 417-T -
PM 016 416-T -
- PM 016 480-T
- PM 016 482-T
- PM 016 481-T
- PM 016 485-T
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