

282 **WITH NONLIQUID CLEANING MEANS FOR SEPARATING MEDIA**

Class 55 is an integral part of this Class (Class 96), as shown by the position of this box, and follows the schedule hierarchy of this Class, retaining all pertinent definitions and Class lines of this class.

- 282.1 .Having insulation
- 282.2 .With heating or cooling means
- 282.3 ..Residue burned
- 282.4 ..Two confined fluids in indirect contact
- 282.5 ...Heat exchanger is part of separator or is contiguous therewith
- 283 .With automatic control of cleaning means
- 284 .With sequential cleaning of plural units
- 285 ..Ferris wheel type filter unit arrangement
- 286 ..With gas flow arresting means
- 287 ...Interconnected with cleaning means
- 288 .Interdependent or interoperated gas flow cutoff or apparatus shutdown and media cleaning
- 289 .Interdigitated comb and separating media
- 290 .For moving indefinite or continuous length separating media
- 291 .Plural diverse cleaning means
- 292 .Sonic type
- 293 .With separating media pneumatically vibrated or flexed
- 294 .Relatively movable pneumatic nozzle (e.g., scanning nozzle)
- 295 .Solid agent cleaning member movingly contacts apparatus
- 296 ..Agent has defined traversing motion relative to separating media
- 297 ...With motion effecting means interrelated with separating operation
- 298Gas flow actuates member

- 299 ...With resulting flexing or distortion of resilient or collapsible separating media
- 300 ..Vibrating, jarring, or rapping means
- 301 .Cohesive filter media cleaning
- 302 ..Pneumatic reverse flushing
- 303 ...Draft diverted from one side of filter to other
- 304 ..Filter manipulation, shaking or flexing for precluding or removing encrustation
- 305 ...Attendant actuated manipulating means
- 306 **AIRCRAFT ANTI-INGESTION MEANS (E.G., AIRCRAFT DEBRIS GUARD)**
- 307 **FILTER OR APERTURED DEFLECTOR UNIT DISCONTINUOUS ACROSS GAS FLOW WITHIN FLOW CONDUIT**
- 308 .Multiple members serially spaced in flow conduit
- 309 **WITH SEPARATING MEDIA BYPASS OR SYSTEM GAS PRESSURE RELIEF (E.G., RUPTURABLE OR DEFORMABLE)**
- 309.1 .With heating or cooling means
- 310 .Pressure relief means to or from atmosphere
- 311 ..Relief means is downstream of media (e.g., ambient air bypasses filter)
- 312 .Valved bypass means
- 313 ..Gas force responsive
- 314 ..Shunt means for total flow
- 315 **PLURAL SERIAL BASICALLY DIVERSE SEPARATING MEDIA**
- 315.1 .With heating or cooling means or having insulation
- 315.2 ..Heat exchanger is part of separator or is contiguous therewith
- 317 .At least one mounted for continuous motion
- 318 .Plural stages in unitary casing
- 319 ..Including expansion chamber
- 320 ..Deflector and fibrous, filamentary, particulate solids, or cohesive sheet filter type
- 321 ...Multiple of one type in series of parallel in flow path
- 322 ...Serially spaced with at least one of other type intermediately positioned

323	....Filters	344	.With flow equalizing, controlling, or distributing means
324	.....In parallel	345	.Centrifugal
325	....Serially spaced deflectors	346	..Parallel
326	.....With connected trough or channel	347	...Gas inlet and outlet at linearly opposite ends of separating zone
327	...Filter is most upstream	348	...Plural gas inflow openings, slots, or whirl vanes in each separator
328	...Movable or movable mounted for adjustment or nonuse	349	...Tangential inlet to each separator
329	...Filamentary brush type or fibrous mass	350.1	.Filters
330	....Tubular or annular for radial gas flow	351	WITH MEANS FOR ADVANCING CLEAN PORTIONS OF CONTINUOUS OR INDEFINITE LENGTH SEPARATING MEDIA INTO GAS STREAM
331	..Conical deflector with curved or parabolic radially extending wide downstream end	352	.Advancing means initiated by flow, pressure, or pressure differential of gas
332	...Cohesive sheet-like filter	353	.Multiple distinct units
333	...Multiple contiguous layers or coils with radial gas flow	354	.Indefinite or running length
334	....Bag type	355	WITH LIQUID TRAP SEAL OR VALVE
335	.....Including imperforate upstream bag end deflector	356	WITH MEANS FACILITATING TRANSPORTABILITY OR HANDLING OF APPARATUS
336	....Conical	357	.Handle feature for apparatus or part thereof
337	....Cyclone or centrifugal whirl type deflector	358	WITH GROUND SUPPORT MEANS (NONFLOW CONDUCTING)
338	WITH RECYCLE MEANS	359	WITH PORTION OF COVER REMOVABLE
338.1	.With heating or cooling means	360	WITH ELECTRICAL GROUNDING MEANS
339	.For concentrate entrained in effluent gas outlet means	361	FLEXIBLE OR COLLAPSIBLE BAG TYPE
340	..Return conduit is external of apparatus	362	.With bag ejecting means
341.1	MULTIPLE BAG TYPE FILTERS IN CHAMBER	363	.Toroidal or annular bag
341.11	.With heating or cooling means or having insulation	364	.Impervious bag with pervious portion
341.2	.Gas flow from inside to outside of filter	365	.Bag carried strain relief means between bag supports
341.3	..Modular compartments	366	.With separable nonfiltering residue container
341.4	..Horizontally mounted filters	367	.Valved, self-closing, or apparatus contained bag closing means
341.5	..Modular compartments	368	.Spaced interior inflow path or with means modifying gas flow in bag
341.6	.Partitioned bag filter chamber	369	.Closure means other than coupler to flow line for filter or cover bag
341.7	.Horizontally mounted filters	370	..Use position residue removal means
342	MULTIPLE SEPARATORS, EACH WITH DISCRETE AND LONGITUDINALLY CONFINED GAS INLET OR OUTLET FLOW PATH	371	...Inner filter bag removal
342.1	.With heating or cooling means or having insulation		
342.2	..Heat exchanger is part of separator or is contiguous therewith		
343	.Combined serial and parallel arrangement		

372	.With additional nonbag type filter	404	.Moved by system fluid in confined flow path
373	.Housing closure secures bag	405	..Fluid flow normal to axis of moving member
374	.With flow line coupling means	406	.Differentially deflected system fluid constituents
375	..Flexible conduit joins line to bag	407	..Concentrate flow groove, guide, or channel on moving member
376	..Coupling part inseparable from bag	408	..Separated gas conducted axially through rotating member
377	...Resilient or expansible	409	...Hollow shaft
378	.With securing or supporting means	410	WITH SEPARATED GAS OUTFLOW CONTROL (E.G., APERTURED CONDUIT)
379	..Bag internally supported	410.1	.With heating or cooling means
380	.Nested bags or folded wall with spaced or unsecured faces	411	.Movable gas outlet conduit
381	.Seaming, reinforcing or bag structure	412	..Longitudinal
382	..Multi-ply, strata, or laminated	413	.Baffle or flow guide
383	WITH REMOTE FAN OR PUMP AND UNCONFINED FLOW TO SEPARATOR	414	..Within or downstream of gas outlet conduit
385.1	COMBINED OR CONVERTIBLE	415	...Movable baffle of flow guide
385.2	.In environmental air enclosure	416	...Flow straightener
385.3	.In motor vehicle	417	.Valve
385.4	.In vented container	418	WITH INFLOW GAS CONTROL OR DISTRIBUTION
385.5	.Involving mining or metallurgical apparatus	418.1	.With heating or cooling means or having insulation
385.6	.Involving communication receiving or transmitting apparatus	419	.Multiple inlets
385.7	.Involving shielding apparatus	420	.Check valve
385.8	.Involving ash tray	421	WITH MEANS FOR LIQUID SEPARATION
391	RESTRICTED ANNULAR MIXTURE INLET TO COLLECTOR ZONE AROUND GAS OUTLET CONDUIT ATTACHED BAFFLE	422	SEPARATING MEDIA ADJUSTABLE TO VARIOUS POSITIONS OF USE OR TO NONUSE
392	WITH GUIDE MEANS EFFECTING REMOVAL OF CONSTITUENT LAYER OUT OF GAS STREAM	423	MEANS WITHIN GAS STREAM FOR CONDUCTING CONCENTRATE TO COLLECTOR
392.1	.With heating or cooling means	424	WITH CONCENTRATE BACKFLOW OR RE-ENTRAINMENT PREVENTING MEANS
393	.Movably mounted for adjustment	425	.Closure between separating and collecting zones
394	.At escape means for heavier constituent	426	.Baffle intermediate concentrate collector zone and gas outlet conduit
395	..And separable residue receptacle	427	..Adjustably mounted
396	..Annular outlet around gas outflow path	428	RESIDUE ACCESS, HANDLING OR REMOVING MEANS
397	..Spaced, overlapped walls	428.1	.With heating or cooling means
398	..Plural, angularly spaced	429	.Separable collection container
399	.Spiral guide	430	.With means effecting or assisting discharge of residue (e.g., endless belt)
400	MOUNTED OR SUPPORTED FOR CONTINUOUS MOTION	431	..Gaseous or liquid
401	.Plural distinct separating media or stages	432	.With movable or manipulable means controlling escape of residue
402	..Overlapping moving separators		
403	..Plural moving separators serially arranged		

433	..Manually actuated	456	..Helical vane or baffle within flow conduit
434	DEFLECTOR	457	...Between gas flow path wall and central core
434.1	..Having insulation	458	..Inflow pipe projects within casing
434.2	..With heating or cooling means	459.1	..Tangential gas inlet opening in casing
434.3	..Two confined fluids in indirect contact	459.2	...Inclined inflow
434.4	...Heat exchanger is part of separator or is contiguous therewith	459.3	...Scroll
435	..Wear liners or surface characteristics (e.g., anti-erosion)	459.4	...Inflow nozzle or vane
436	..Removably supported deflector surface	459.5	...Varying inlet area
437	..With gas pump or fan	460	...With tangential gas outlet
438	..Within separator	461	..Continuous confined flow path
439	..Downstream of separator	462	..Impingement baffle
440	..Parallel and continuous nonplanar members (e.g., crimped, corrugated, curved)	463	..Conical with apex facing upstream
441	..Concentric, nested conduits with closed and open ends for flow reversal	464	..Corrugated, ribbed, crimped, or with projections
442	..Plural deflectors overlapped and spaced serially in gas flow	465	..Planar
443	..Plural deflectors in row across gas flow	466	WITH SEPARATED NONGASEOUS MATERIAL CONDUCTING OR TREATING MEANS
444	...Deflectors in alternate rows aligned (i.e., staggered)	467	WITH GAS FLOW EFFECTING MEANS
445	..Deflectors apertured or closely spaced from flow path wall	467.1	..With heating or cooling means
446	...Space or aperture opposed by solid deflector surface	468	..Injector or jet pump type
447	..Fixed gas whirler or rotator means	469	..Manual, weight, or traction operated gas pump
448	..With outlet gas conduit wall common to surrounding gas inlet or concentrate outlet or collector	470	..Plurality of impellers arranged in parallel or performing diverse functions
449	...Gas inlet and outlet have common wall	471	..Impeller within or proximate to space encompassed by separating media
450	...With outlet from collector	472	..Upright or multichambered casing
451	...Tangential outlet pipe	473	..Impeller upstream of separating media
452	..With plural concentrate outlets in arcuate, axially extending whirl chamber wall	474	WITH PARTICULATE SOLIDS MOVEMENT DURING USE OR AGITATING MEANS THEREFOR
453	..With concentrate outlet means in one of parallel plates mounting spaced whirler vanes	475	WITH MEANS ADJUSTABLE TO CONTROL COMPACTNESS OF SEPARATING MEDIA
454	..With tangential concentrate outlet pipe	476	WITH MEANS INTRODUCING GAS INTO MIDST OF SEPARATING MEDIA
455	..Plural nonradial gas passages in peripheral wall (e.g., tuyere)	477	STRANDS OR BRISTLES WITH UNSUPPORTED OR FREE EXTREMITIES (E.G., BRUSH TYPE)
		478	WITH SEPARATE FLOW LINE ACCESS MEANS OR FILTER MEDIA PASSAGE MEANS OFFSET TO FLOW PATH
		479	..For discrete filter particles
		480	..Access means is clamping or coupling means for unit filter media

- 481 .Unit transversely slidable through flow path
- 482 **TWO OR MORE SEPARATORS (E.G., SPACED FILTERS IN FLOW LINE OR CASING)**
- 482.1 .With heating or cooling means
- 483 .With framework for edge to edge relation
- 484 .Spaced for parallel flow of gas
- 485 .Three or more serially spaced
- 486 .Plies or layers of different characteristics or orientation
- 487 ..Differing mesh sizes
- 488 ..Variation in shape or size
- 489 ..Orientation of elements
- 490 **WITH MEANS SECURING OR RETAINING SEPARATING MEDIA**
- 490.1 .With heating or cooling means
- 490.2 ..Two confined fluids in indirect contact
- 491 .Fastening means pierces or penetrates media
- 492 .Internal frame or support means
- 493 .Hinged or pivoted retainer or clamp on backing frame or in flow line
- 494 .Grid or tray type for bottom support only
- 495 .Unit or cohesive sheet-like media in flow line or frame
- 496 ..With adjustable connector or size adjusting means
- 497 ..Edge supporting or securing means for nonplanar sheet form filter (e.g., zigzag)
- 498 ...Spiral or cylindrical
- 499 ..With additional transversely arranged members
- 500 ..Flexible sheet type maintained in nonplanar configuration
- 501 ..With additional support means not positively engaged or joined to media (e.g., across face of filter)
- 502 ..Gasket or sealing means
- 503 ..Media within joinable or separable flow line sections
- 504 ..Aligned stop, media and removable retainer
- 505 ..Flow line end coupling (e.g., pipe end)
- 506 ...Flange or track on flow line for slidably retaining media
- 507 ...Resilient attaching means
- 508 ..Suspended or supported by bracket or from top of frame
- 509 ..Distorted media in flow line or resilient retaining means
- 510 ..Annular unit held between dished or plate-like end members for top and bottom support
- 511 ..Edge supported or secured only
- 512 ..Discrete fibrous or particulate solids
- 513 ..Resilient securing means
- 514 ..Fused or bonded to a supporting or backing member
- 515 ..Foraminous container
- 516 ..Held between openwork
- 517 ...Between telescoped or nonplanar retainers
- 518 ...Between perforated plates
- 519 ...Between reticulated end closures
- 520 **SPIRAL FILTER MEDIA**
- 521 **ZIGZAG, CORRUGATED, OR CONICAL**
- 522 **SPECIFIC MEDIA MATERIAL**
- 523 .Ceramic or sintered
- 524 .With coating, impregnant, or bonding agent
- 525 .Metal mesh or expanded material
- 526 ..Wadded or compressed
- 527 .Fibrous or strand form
- 528 ..Organic (e.g., vegetable)
- 529 **MISCELLANEOUS (E.G., SHAPES)**
- FOREIGN ART COLLECTIONS**
- FOR 000 CLASS-RELATED FOREIGN DOCUMENTS
- DIGESTS**
- DIG 1 **GRADUATED ELECTROSTATIC FIELD**
- DIG 2 **VACUUM CLEANER BAGS**
- DIG 3 **VACUUM CLEANER**
- DIG 5 **METHODS OF MAKING FILTER**
- DIG 6 **MAGNETIC COUPLINGS**
- DIG 7 **BLACK LIQUOR TREATMENT**
- DIG 8 **BUILT-IN VACUUM CLEANERS**
- DIG 9 **RADIOACTIVE FILTERS**
- DIG 10 **RESIDUE BURNED**
- DIG 12 **POCKET TYPE FILTER**
- DIG 13 **POLYURETHANE FILTERS**

DIG 14 INERTIA SEPARATOR
DIG 15 COLD TRAPS
DIG 17 COMPRESSED AIR WATER REMOVAL
DIG 18 WORK BENCH
DIG 19 CRANKCASE VENTILATION
DIG 20 SPARK ARRESTER
DIG 21 SILENCER CLEANER
DIG 23 STEAM SEPARATORS
DIG 24 VISCOUS COATED FILTER
DIG 25 AGGLOMERATORS
DIG 26 BAG COUPLING
DIG 27 CLEANERS, LIQUID
DIG 28 CARBURETOR ATTACHED
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DIG 30 EXHAUST TREATMENT
DIG 31 FILTER FRAME
DIG 32 GASEOUS FLUID CONVEYING
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